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"FRUIT WORLD OF AUSTRALASIA."

Representing the Deciduous, Citrus and Dried Fruits Industry of Australasia.

Published the First of each Month.

Editorial and Management Notices.

Articles and Photographs.—The Editor will always be very pleased to receive articles and photographs for publication. Articles on spraying, pruning, drainage, marketing, and other cultural matters, and reports of meetings, are welcomed. Please write on one side of paper only; include name and address (not necessarily for publication). Press matter sent in an open envelope, marked "Printer's MSS.", postage rate: 2 ozs., 1½d. Photographs, if sent in an open-ended package, marked "Photos. only," will travel at 2 ozs., 1½d. A short description of the photos should be written on the back.

We do not hold ourselves responsible for the views expressed by our correspondents.

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The annual subscription, post free within Australia and New Zealand, is 8/6. All other places, 10/6, post free. New subscriptions can commence at any date. Subscribers should notify us immediately of any change of address.

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"The Fruit World of Australasia" is an advertising medium of proved value. Advertising rates may be had on application to our Head Office, or to agents in the various States, as set out below.

Changes of copy for advertisements must be in our hands on or before the 17th of the month prior to publication.

Readers are asked to make their purchases from our advertisers, who cover all lines of interest to orchardists, at the same time mentioning this journal. By so doing, the grower, the advertiser, and this paper will benefit.

Every care is taken to publish advertisements from reliable houses only, and to see that advertisements of an undesirable nature are not published. The management reserve the right to refuse to publish any announcements that they may regard as undesirable, either from the point of view of the goods offered or in the wording of the advertisement, notwithstanding the fact that a contract may have been entered into for the use of a certain space.

"The Fruit World" Offices (where copies and full particulars are obtainable) are as follows:—

Victoria (Head Office): 9 Queen Street, Melbourne, New South Wales: Carruthers, Parram & Co., 77 King Street, Sydney. **South Australia**: W. F. McConnell, Grenfell Buildings, Grenfell Street, Adelaide. **Tasmania**: Saunders & Co., Murray Street, Hobart. **Western Australia**: D. L. Hetherington, Colonial Mutual Buildings, St. George's Terrace, Perth. **Queensland**: Gordon & Gotch Ltd., Queen Street, Brisbane. **New Zealand**: Gordon & Gotch Ltd., Wellington, Dunedin and Auckland. **Great Britain**: Harvey H. Mason, 1 Mitre Court, Fleet Street, London, E.C., England.

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ASSISTING PRIMARY INDUSTRIES.

Federal Government Offers Bounties.

In opening the Royal Agricultural Show in Sydney, the Prime Minister (Mr. Bruce) announced that the Federal Government contemplated rendering assistance to primary industries in the form of bounties for export and to subsidise shipping to develop new markets.

For some time past primary producers have protested that the brunt of the tariff burden was borne by them, in so far as the cost of implements and tools of trade was passed on to the producer without corresponding recompense in the shape of increased prices.

The money for the proposed bounties and subsidies is to be taken from the Customs revenue receipts.

The Prime Minister insists that one essential be that the primary industry which seeks assistance, must submit proof that it is effectively organised.

The scheme so far has been submitted in broad outline, and it remains to be seen how it will work out in detail. In the meantime the Prime Minister recommends all producers to study a copy of his Sydney speech, which is now printed in pamphlet form, and available from the Prime Minister's Department, Melbourne.

NEWS IN BRIEF.

When opening the recent Conference of South Australian Fruitgrowers, the Minister for Agriculture (Hon. J. Cowan) stated that the Tariff on imported timbers should be done away with.

Valuable information relating to successful co-operative methods in California is published in this issue.

Regulations have now been issued in Victoria making it an offence punishable by fine for fruit to be handled roughly.

WOOLLY APHIS PARASITE.

Value of *Aphelinus Mali*.

We have received advice from Dr. R. J. Tillyard of the Cawthron Institute of Scientific Research, Nelson, N.Z., to the effect that approximately 90,000 *Aphelinus* have been distributed in New Zealand during the season. Numerous applegrowers have written testifying to the great value of this insect.

We expect to receive further particulars from Dr. Tillyard in this connection after the distributing season is over, and no doubt a fuller report on this subject will be published in a later issue.

HANDLE FRUIT GENTLY.

Or Be Fined!

Useful New Regulations in Victoria.

The Superintendent of Horticulture for Victoria, (Mr. J. M. Ward) desires to inform persons handling fruit that the following regulations are now in force.—

Interpretation.—

1.—For the purpose of these regulations

"Export" means to forward or export from Victoria to any other part of the Commonwealth, and includes causing, suffering, or attempting to so forward or export or deliver for export as aforesaid, and "Exported" has a corresponding meaning.

"Package" means any box, case, or receptacle used or capable of being used or intended to be used for containing fruit or vegetables.

Handling, Stacking, Loading, or Unloading Fruit and Vegetables.

2.—No person shall handle, stack, load, or unload any fruit or vegetable for export whereby, in the opinion of an inspector, such fruit or vegetables are subjected to shock or pressure sufficient to bruise or injure such fruit or vegetables.

Penalties.

3.—The following penalties are hereby prescribed as those to be inflicted for a contravention of these regulations (that is to say),—

(a) In the case of a first offence, any sum not exceeding One pound.

(b) In the case of a second or subsequent offence, any sum not exceeding Two pounds.

PERSONAL.

Mr. E. Hulme, having resigned from the Secretoryship of the Commonwealth Fruit Pool, has now become Sales Manager to the Kyabram Preserving Company Ltd.

Mr. Frank Chapman, of Colchester, England, representing Messrs. Geo. Monro Ltd., Covent Gardens, London, is now in Australia. Mr. Chapman reports that prospects of Australian fruit in England are very good this season, especially in view of the fact that the American Apple export is ceasing, and the English crop of Strawberries is late.

Mr. A. G. Gunner, who has been secretary of the Harcourt Fruitgrowers' Progress Association for some time, has resigned to take up a city position. Applications are being invited for the vacant position at a salary of £250 a year, and 2½ per cent. commission on all business above £6,000.

Walnut Culture

Should be profitable under Australian conditions.

PLANTING :: PRUNING :: VARIETIES :: DISEASES

(By P. H. Thomas, Tasmanian Government Fruit Expert).

(Continued from Page 208 April issue).

Planting.

THE WALNUT, being a broad-headed and fairly high tree, requires plenty of room for development. Trees supplied from the nursery are generally of two or three year's growth, and should be strong and well rooted. Most young trees that are sent out are of the "straight stem" type.

It has been pointed out that the Walnut is a very deep-rooted tree, and especial care should be taken when lifting from the nursery row to avoid damaging the roots.

The purchaser should ensure that the trees supplied him are well rooted, and free from spade wounds.

One of the greatest mistakes that have been made in laying out Walnut plantations is that of planting the trees too closely together, and in numberless cases it has ultimately become necessary to remove every other tree in the orchard rows.

In deciding the distance apart the trees are to be planted, the

class of soil

should be taken into consideration. Very rich, deep loams will produce a luxuriant, strong growing tree, whilst land of medium quality will allow closer planting. From 40 ft. to 50 ft. apart should be a convenient distance for planting under Tasmanian conditions.

In trees that are too close together, the lower fruiting wood will not ripen, as it is shaded from the sun, and only the higher branches will develop, the lower portions being barren and full of dead limbs.

Many planters utilize the large spaces between the permanent trees for planting out "filler" trees. These may be either Prunes, Peaches, or Apricots, and are placed either midway between the Walnut rows, or in the centre of the square formed by each four trees. The "filler" trees being only of a temporary nature, are pruned and treated so that early and plentiful crops are obtainable in the short period they will be maintained.

When the Walnut trees show that they require the whole room for their development, the "fillers" are removed. This practice will assist in

keeping down costs

during the younger stages of the Walnut orchard's life, and may possibly show small profits from the area.

When receiving the trees from the nursery, it is advisable to "heel" the bundles in immediately after unpacking. Before planting, go carefully over the roots of each tree and trim off all ragged cuts or bruised or broken roots.

Walnuts are susceptible to a root rot, and this is induced by neglecting these precautions, which may often cause the loss of a number of young trees.

Excavate a hole deep enough to take the roots of the young tree without cramping, and fill in the soil around them, thoroughly tamping until it is firm and set. This is a very important operation. Loosely set trees do not make nearly the same headway, and are longer in becoming established than those that have been tamped firmly into position.

Pruning.

If a vase-shaped, open-headed tree is desired, it will be necessary to head at a height of about three feet from the surface, and train the limbs thus formed so as to produce a symmetrical and evenly-balanced tree.

It very often happens that after heading, the buds that are chosen for the future branches are slow in breaking forth in growth, and that the young tree sends out shoots at its base and lower parts. These should not be cut off, but pinched back. This will have the effect of forcing the growth where desired, and the suppressed shoots on the lower parts will assist in the nourishment of the tree until sufficient leaf and growth have developed to form the head.

Owing to the brittle nature of the wood and frequency that breaking at the "crotch" has occurred in the grown tree, it is doubtful if the "vase" is the best shape for the Walnut.

It is true that a better spread is obtained, and that a low tree is produced, but opinion is changing towards the pyramid type of tree.

This is obtained by allowing the young tree to develop, without "heading" and encouraging a strong central leader, from which the limbs and laterals will radiate. Although a higher tree is obtained with somewhat less spread, such a framework is stronger and less likely to break under strain.

The laterals

of a Walnut are not treated similarly to the deciduous fruits. They should be allowed to develop unchecked, and

in suitable conditions will readily furnish up sufficient bearing wood each season. Occasionally it will be necessary to thin out branches that are becoming crowded, but this will be all that is required.

Varieties.

There are many varieties of Walnuts, but of late years the majority have been superseded by the medium-sized, thin-shelled, well-filled type, and the old large, hard-shelled nut is disappearing.

The characteristics

sought after are found in such varieties as Franquette, Mayette, Eureka, and Placentia. The latter is a great favourite in the American trade, and is largely planted throughout California. Eureka is a much later blooming variety than most kinds. This is a valuable characteristic, as the chances of frost injury are considerably lessened.

Diseases and Pests.

The Codlin Moth has recently become troublesome in some of the American plantations, boring into the green Walnuts in a manner similar to which it attacks Apples and Pears. It is controlled by spraying with arsenate of lead.

A species of green aphid also sometimes attacks the trees in large numbers. If allowed to go unchecked, the young growths and crops will suffer. Applications of either nicotine sulphate or home-made nicotine solution is the best remedy.

Probably the worst disease to which the Walnut is susceptible is that known as "walnut blight." This is a bacterial disease that will attack and kill the young wood and cause the nuts to drop off when in the immature stage. Very little progress has been made in dealing with this disease except in the line of producing varieties that are resistant.

Another disease that is sometimes prevalent is that known as "walnut canker" (Melaxuma). This takes the form of a black canker, which occurs mostly in the trunk and main limbs. A dark exudation breaks forth, which considerably weakens and stunts the growth.

The only treatment that has proved at all efficacious is to cut out the diseased portions and treat with Bordeaux Paste. This, to be successful, must be carried out in the initial stages of infection.

THE "FRUIT WORLD" APPRECIATED.

17/3/24.

Mangrove Mtn., via Gosford, N.S.W.
"I congratulate you on the excellence of the 'Fruit World'—having found it concise and to the point, yet embracing, as it does, so large a field of different interests.

"In view of this latter fact, rarely have I received a copy wherein I have not found something of instruction and great interest."

C.J.W.

Fruitgrowing Under Irrigation.

Ploughing : Pruning : Trellising.
(By Our Special Correspondent.)

AS WINTER APPROACHES one begins to think around ploughing and pruning operations.

The continued use of the cultivators at this season of the year is not recommended, for weed growth should be encouraged as this adds organic matter to the soil when it is turned under by the ploughs.

Where two ploughings are to be given to the

orchard or vineyard,

the first may be done towards the end of May and in June. The soil being turned towards the centre of the row and the open furrow being left next the row of trees or vines.

Do not try to get too close to the plants with the two horse plough, the harness and swings are liable to damage the bark and may break off spurs and limbs.

Finish off the ploughing with a light plough fitted with an adjustable bridle and handles.

The strip of soil left between the trees and vines may be removed with the horse hoe.

The remaining patches of soil around the plants can be loosened up with hand hoes.

The second ploughing should be carried out in early spring, the soil being turned back to the plants, leaving the finishing furrow in the centre of the rows.

In orchards,

the second ploughing should cross that given in the early winter.

The first ploughing should be given in the opposite direction to the way the trees are irrigated, and the second in the direction of the irrigation furrows. This method simplifies the first irrigation, if the land has not been previously worked down into a fine tilth.

Should the second ploughing be across the direction of the irrigation flow, great difficulty will be experienced in applying the water to the soil, as the irrigation furrows will continually be breaking away into the finishing off furrows of the ploughing.

Trellising.

MUCH OF THE TRELLISING required for new vineyards is erected during the autumn and winter months, and much advice is often sought on this important subject.

What distance apart should the posts be placed?

This seems to be a point that gives the beginner much thought.

In the first place the distance will be determined to a very large extent by the distance apart that the vines are planted. The richer the soil, the stronger the vines will grow; under these conditions the posts should be closer together than on poorer soils where the growth of the vines will be weaker.

When the vines are planted 6, 8, or 12 feet apart, the posts should be placed 24 feet apart. Where the vines are set out 7 feet apart the posts will be erected about every 21 to 28 feet in the rows. Should the plants be 10 feet apart, the posts might be placed at every 30 feet.

The strainer posts should be about 8 inches in diameter at the small end, and the intermediate posts approximately 6 by 4 inches. The length of the posts will vary with the variety of vine and type of trellis.

Gordo vines are often trained on a one wire trellis, the posts used being 4 feet long, the strainers 5 feet. The strainers are placed 2 feet 10 inches in the soil, and the posts 1 ft. 10 inches. The posts stand 2 feet 2 inches above the soil level, the wire being placed 2 inches from the top of the posts.

The wire recommended is No. 8 gauge; both black and galvanised wire give good results, the galvanised of course will last longer than the black.

The *Doradillo* is usually framed on a two wire trellis, the posts standing some three feet two inches out of the ground. The bottom wire which carries the arms of the vine, is placed two feet above the soil level and is usually of No. 8 gauge. The top wire which supports the summer growth, is placed one foot above the bottom wire and may be of No. 10 gauge.

The strainer posts for the *Doradillo* trellis should be about 6 feet 6 in. long, and are placed 3 ft. 4 inches in the soil. The intermediate posts being 5 feet long and 1 foot 10 inches in the ground.

The *Sultana* vine is trained on both a two and a three wire trellis. In the former case the posts may be the same as those described for the *Doradillo* trellis. The only difference being in the spacing of the wires, the lower wire being 2 feet 3 inches to 2 feet 4 inches above the surface of the soil.

The vines are framed upon the lower wire, some of the fruiting canes being tied on the lower wire and some are taken to the top wire.

Where a

three wire trellis is used for *Sultanas*, the strainers

should be 7 ft. 6 in. and intermediate 6 feet. The posts are erected 4 feet out of the soil and 3 ft. 6 in. and 2 feet in the ground respectively for strainers and intermediate posts. The wires are set at 21, 30, and 46 inches respectively above the soil level.

The bottom and top wires being No. 10 gauge and the central wire No. 8 gauge.

The vines are framed on the central wire, a few fruiting canes being placed on the central wire and the rest depressed and twisted on to the bottom wire.

The top wire carries the summer growth.

Currant vines are trained on various systems, being mainly variations of the cordon and espalier methods. Occasionally a trellis with a T piece is used, but this system is very seldom adopted in the irrigation areas.

One sees espaliers with two, four and even six arms, and cordons with one to three. The espalier with two arms and the single cordon are being widely adopted now.

These vines are framed on three wire trellises with the alternate vines framed on the bottom and middle wire respectively. For the wires carrying the arms of the vines, use No. 8 gauge, and the top wire which supports the summer growth, No. 10 gauge.

The spacing of the wires depend upon the length of the posts.

Where 7 ft. 6 in. strainers and 6 ft. intermediate posts are used, the trellis is erected with the posts 4 ft. 2 in. out of the ground, the wire being placed 2, 3, and 4 feet respectively above the surface level.

Where possible it is desirable to use posts 6 inches longer in order to have the posts 4 ft. 8 inches above the ground level; this allows a wider space between the wires, giving more air circulation and light through the vines. The wires would then be placed 2 feet, 3 feet 3 inches, and 4 feet 6 inches respectively above the soil.

All strainer posts should have the replaced soil rammed well around them, and should be securely struttied. The wires if placed in the trellis on a hot day, should not be strained very tight as they are liable to snap when the weather turns cold, as they will then contract.

Pruning.

Pruning of vineyards and orchards may be commenced as soon as the leaves turn color and commence to fall.

Early pruned trees and vines usually burst into growth sooner than those that are pruned late. Consequently portions of the plantations that are liable to late frosts should be pruned last, in order to retard the "bud burst" in spring.

Conference of Agricultural Bureau.
The Annual Conference of the

River Branches of the Agricultural Bureau of South Australia will be held at Murray Bridge on May 14th. and 15th., when subjects dealing with fruitgrowing and dairying under irrigation conditions will be dealt with.

A large gathering of delegates from the various branches of the Bureau from Renmark to Murray Bridge is expected as well as several officers of the Agricultural Department.

SOUTH AUSTRALIA.

Fruitgrowers in Conference.

Useful Work Accomplished.

The fourteenth half-yearly meeting of the South Australian Fruitgrowers and Market Gardeners' Association was opened last month at Adelaide by the Hon. J. Cowan (Minister of Agriculture). There was a large attendance, and the President of the Association (Mr. C. W. Giles) presided.

The question of fruit cases was referred to by the Minister for Agriculture (Hon. J. Cowan), who said it was a great pity a uniform fruit case standard could not be adopted throughout the Commonwealth. The absence of suitable timber was, of course, one of the difficulties which confronted South Australia. The majority of the growers in the State were not entirely favorable to the hardwood case. It was a great pity that there was no suitable softwood in Australia for making cases, but he thought cases could be imported in shooks. Some effort should be made to do away with the Tariff on these imported cases in order to assist the growers.

The President in his report said during the past half-year various matters effecting the fruit industry were dealt with, the most notable being the Sale of Fruit Act, in regard to the standard fruit case. In respect of this an amicable arrangement had been arrived at with the Minister of Agriculture without affecting the principle of the Act. Under the arrangement, the manufacturers of the cases were held responsible for any deficiency in their size.

As anticipated, the Federal Fruit Bounty had no appreciable effect on the fruit prices, except with regard to Pears, of which there had been an exceptionally heavy crop. It was estimated that the growers benefited to the extent of £6,000 on Pears. A quantity of fruit and Almonds was despatched to the British Empire Exhibition, and a small experimental shipment of 30 varieties of Plums was sent to the London market. It was a matter for regret that space could not be arranged for a larger shipment. The majority of the varieties carried well and realised good prices.

The Citrus Growers' Association amalgamated with the association

during the year, and was shipping about 50,000 cases of fruit under the brand of the Fruitgrowers' Association. The Grapegrowers' Association was organising the growers with a view of reducing the unfair burden of taxation levied on their products; the prohibition of imported synthetic compounds; and ultimately the securing of better prices. It was pleasing to note that they had the support of the State Government and the public. The association was doing everything possible to open overseas markets, but regretted that more had not been done to supply the local population with cheaper and better fruit.

A movement was also under consideration for the suppression of the sale of synthetic cordials.

The association also desired to place on record its appreciation of the support and assistance of the State Government to all sections of the fruit industry.

Delegates were appointed to the Australian Conference of Fruitgrowers, and items prepared for the agenda paper.

The Work of Bacteria

Scavengers and Food Manufacturers.

It is well known that bacteria occur in immense numbers in the soil and elsewhere, but one of their more important functions is frequently overlooked, i.e. their work as scavengers.

The decay and consequent disappearance of dead organisms, both animal and plant, are brought about by the action of bacteria. In the decomposition of vegetable structures, the trunk of a fallen tree, for instance, the process is begun by the larvae of insects, and by fungi, but the final part is carried on by bacteria. In the decay of animal tissues bacteria alone are the agents. Hence, if it were not for the work of bacteria, the earth would long ago have become so encumbered with the remains of defunct organisms that it would be uninhabitable.

From the chemical point of view, the work of bacteria in maintaining the food cycle is just as important, (writes the "Agricultural Gazette" of New South Wales). All animal life depends, either directly or indirectly, upon plants for food, and while plants derive a considerable part of the material from which they make their food from the air, still no inconsiderable part of it comes from the soil, the same food constituents being used over and over again, first by the plant, then by the animal.

Among the most important forms of plant food are the nitrates, from which is derived the indispensable element of plant and animal growth, nitrogen. The plant, having made use of the nitrates, is eaten by the animal, which uses the nitrogen thus obtained to build up the complex proteins necessary for the growth and

maintenance of the cells of its body. The waste materials excreted during the animal's life and the carcass after its death, contain nitrogen, but not in a form available for plants. Here again the bacteria break up these complex compounds into forms simple enough to be used as food by plants.

Nitrifying Bacteria.

In the soil everywhere, especially in fertile soil, is a class of bacteria known as nitrifying bacteria, which feed upon the soil ingredients. These bacteria convert the nitrogen products into forms available as plant food.

In the process of decomposition, however, a good deal of nitrogen is set free in the air. Where certain kinds of bacteria are present in the soil, they absorb this nitrogen from the air in contact with the soil, and render it available for plants.

Another method by which bacteria aid in reclaiming the nitrogen set free in the air is by combined action with certain plants, such as the Leguminosae, or pea family, and various others. Little nodules are formed on the roots of the plants, each being filled with bacteria, which in some manner take the free nitrogen which exists in the air permeating the soil, and fix it in the roots in the form of nitrogenous compounds. This nitrogen is then not only of use to the plant during its life, but when the plant dies it is returned to the soil, and results eventually in the production of nitrates.

We thus see that the food cycle is a complete one, and that it is this repeated circulation that has made the continuation of life possible for the millions of years of the earth's history. We see further that this cycle is dependent upon the bacteria, that the continuation of the present condition of nature is fundamentally based upon the ubiquitous presence of bacteria and upon their continual action in connection both with destructive and constructive processes.

DRIED FRUITS' DUTY.

Preference Will Not be Renewed.

As we go to press a cablegram is to hand stating that Mr. Philip Snowden, Chancellor of the Exchequer, when introducing his Budget in the House of Commons, said the Government was unable to endorse its predecessor's Imperial preference proposals, which were outlined at the Conference attended by Mr. Bruce last year. Also, the increase of 50 per cent. in the dried fruits duty imposed in 1915 WOULD NOT BE renewed. This will, of course, be a very great disappointment to the dried fruit growers, who had hoped for so much from the preference which had been promised. They will now have to rely on marketing their produce on their own organising efforts in other directions.

Organising the Fruit Industry.

Growers Must Face Economic Facts.

Sectional Organisations : Packing Sheds : Advertising.
"Under Consumption, Not Over Production."

(By Colonel E. E. Herrod, General Secretary Fruitgrowers' Association of N.S.W.)

IT HAS ALMOST BECOME second nature for most people to malign the fruit industry and the grower himself is perhaps the worst offender in this direction.

As the grower is the person mainly affected by depression in the industry it is to the grower that we must look for the initiation of reforms calculated to improve the conditions surrounding his industry.

In order that the industry should be stabilised and placed on a firm business footing it is necessary for growers themselves to

face facts squarely in the face and to take carefully into consideration the various factors which govern the position.

The industry is undergoing a period of depression, but in view of the fact that this depression obtains in other parts of the world as well as in Australia it behoves growers to weigh up the various factors affecting conditions before resorting to an apathetic state with its consequent inclination to lay all the blame on over production.

Whilst the writer is firmly of the opinion that the extensive new areas planted during the last few years are likely to result in a greater increase in production

than is warranted by our normal increase in consumption and that it would have been more politic to have considered the question of consumption together with production at the time these new areas were being planted, yet now that we are bound to face the problem likely to be caused through such heavy plantings we must look for its solution.

We will then realise that after all it is not perhaps a question of over production so much as under consumption. Depression said to be caused by over production in other parts of the world have undoubtedly been brought about in some instances by under consumption, and this may be the case in Australia.

The main factor affecting this condition is inefficient business methods in growing, packing, marketing and distribution.

There can be no doubt that with improvements in these methods consumption of fruit in this country will increase enormously.

For growers to continue to reiterate the cry of over production, will possibly be admitted, after serious consideration, to be so much destructive criticism of their own industry, and will tend to cloud the real issues.

Some of the fruitgrowing districts of New South Wales are actually producing less fruit than they did ten years ago, and some districts formerly large producing areas have almost gone out of existence as fruit producing districts, and although this is more than compensated for by new areas now coming into bearing or likely to come into bearing within the next few years, it may safely be assumed that production has not yet increased in proportion to the potential consumption, if the business methods adopted in this industry had progressed at the same rate as business methods in other commercial pursuits.

The present slipshod methods of marketing, and the large quantity of inferior and often diseased fruit, packed badly in unattractive cases that is marketed cannot but fail to discourage consumption, and also have a deleterious effect on the good fruit with which it comes into competition.

The consuming public realises that something is wrong, as fruit is always dear, even in glut periods, regardless of the seasons, and we are continually faced with an amazing condition, in that, the great majority of growers receive unremunerative returns, whilst the public has still to pay exorbitant prices for the same fruit.

Under prevailing conditions every individual grower marketing fruit, is competing with every other grower in keeping prices down and expenses up, and the result is an undue competition amongst sellers and none amongst buyers.

The grower after producing his crop says in effect "here is the fruit of my labour, give me what you will for it"—how different is this attitude to that of the manufacturer of the farming implements, fertilisers, spraying compounds, etc., that the grower uses, who says "here is my product and that is my price."

The time has surely arrived when all growers should assist the organisations which are endeavouring to solve these problems, and to secure the adoption of methods which cannot fail to bring about the stabilisation of the industry.

The solution of our main problems undoubtedly lies in co-operative effort, and in this connection we have such a valuable object lesson in the organisations

existing in California that we should benefit by the experience of that country to the extent of

adopting their methods, subject of course to certain modifications to suit local conditions, without going through the long experimental phases that have been tried and proven by California. The system is briefly outlined as follows:

- (a) Individual model orchards.
- (b) District co-operative packing associations.
- (c) State co-operative marketing association.

- (d) A Federal Council.

Marketing associations must be commodity ones, that is to say there must be well defined organisations of growers of various fruits, and the one association cannot hope to successfully handle citrus and pome fruits together. This system means that co-operation is

starting from the bottom and working upwards, which is the only one that has proven successful.

With the individual orchardist marketing his own fruit, the industry will never reach a decent business standard, but with a chain of co-operative packing house companies throughout the State each grading, sizing, and packing its individual shareholders' fruit into standardised packs, and the marketing being done by the particular association formed by the linking up of the various packing houses, the markets can be stabilised and a good deal of the speculative element eliminated.

These co-operative associations could feed markets in an orderly manner, they can determine what the consumer wants, how he wants it and when he wants it; individual growers cannot do these things excepting to a very limited degree.

The real benefits of co-operative marketing lie in the stabilisation of prices, which is a result of the standardisation of the product, the control of the preparation of that product for the market the regulation of the output on to the market so as to prevent flooding and glutting.

There can be no danger to the consumer by reason of the orderly marketing of any farm produce, for any attempt to hold prices too high would spell ruination to the organisation attempting such a thing, as the consumer would immediately boycott the particular product.

The consumer wants fruit, and is willing to pay a reasonable price for it, and the consumer would welcome reforms in the present methods and is really anxious to see the industry stabilised, and fruit always available at reasonable and regular places.

With the organisation of growers developed along sound lines and the haphazard methods turned into orderly sound business, consumption would automatically increase, and it would then be possible and comparatively easy to embark on an

educational publicity campaign which would undoubtedly result in a tremendous increase in the consumption of what should be one of our main articles of diet.

It should not be difficult to increase the consumption of fruit enormously.

Apart altogether from the undoubted fact that the people as a whole want fruit because they like it, prominent physicians are continually advocating the need for a greater consumption of vegetable foods which include the so necessary vitamins of which the Orange is so chock full and point to the value of fruits in checking the ravages of cancer.

To the great credit of the medical profession, its prominent men continue to preach prevention rather than cure, and quite recently the Metropolitan (Sydney) Health Officer emphasised in public the "immense amount of good that would result from eating an Apple every night before retiring"; so we see the old saying of "an Apple a day keeps the doctor away" is something more than a catch phrase.

In spite of this wonderful opportunity to boost the Apple, the grower is not taking advantage of it, and nothing is done to encourage the public to acquire the "Apple a day" habit. That advertising will do much to create a demand has been proven so often that no doubt can remain, and the recent campaign by the Commonwealth Fruit Pool during which enormous stocks of canned fruit were cleared, has shown conclusively that the public will readily respond to suggestions if the advertised article is made available in an attractive form and at a reasonable price.

The time to introduce a campaign to popularise the

eating of more fruit

has arrived, for we are surely faced in the very near future with a great increase of production, and the Fruit-growers' Association of N.S.W. is taking this matter up and has initiated inquiries, and it is hoped will shortly be able to submit something definite for the consideration of growers.

The question of finance looks formidable at first sight, but with many to help the cost per grower would be very small. A small levy per case on all fruit marketed would appear to be the most equitable way to raise a fund and one penny per case from a million cases means over £4,000.

It would be well for growers to consider a suggestion of this nature for if it meant that the fruit which now goes to waste by going bad in the markets, in the shops and in the various stalls and barrows, went into consumption instead, and the

price to the grower would be greatly increased and the price to the public decreased.

If the retailer by reason of a greater demand and a consequent quicker turnover reduced the margin

he at present allows because of the waste, what a difference there would be in the price per dozen.

The retailer cannot be expected to initiate a movement towards a reduction in prices but he would speedily fall into line when a movement of that nature started. The

grower is the man

who must make the first move, and the time for the initiation of a greater consumption campaign is ripe, and it is up to the grower to see that it does not get over ripe like so much of his fruit which consequently never goes into consumption.

In conclusion then, might I suggest that the cry of "over production" be suspended till we put our own house in order and prove to ourselves that it is not "under consumption."

Lessons from California.

Organised Growers Co-operate with Wholesale and Retail Distributors.

With the object of assisting Australian fruitgrowers, the following article has been compiled and sent to the "Fruit World" by Mr. David H. Rundle, an Australian who has spent several years in California studying methods there. Mr. Rundle also rendered service in Tasmania and New Zealand in assisting to organise the growers in those places.

The article is as follows:—

MUCH PUBLICITY has been given to the operations of the California Fruit Growers' Exchange, handling Oranges and Lemons from California. It is generally recognised as the leader in co-operative handling and distribution of a fruit.

Nevertheless repetition of facts from time to time is advisable so that those at a distance seeking to use the Exchange should get accurate direction.

In reading the outline in the "Fruit World" of July last of the proposed organisation of fruitgrowers in Queensland, it became evident that an attempt was being made to use the Exchange system. It was equally evident that

many false theories

were included that had no origin in anything ever printed of the work of the Exchange, and which, in my opinion, counteract any benefits that could be secured from adapting exchange principles.

In order to get accurate facts and figures for readers of the "Fruit World," I have secured from Mr. Paul Armstrong, Advertising Manager for the Exchange at Los Angeles, the annual report and certain statistics which make very interesting study. Still more valuable, however, was a discussion with Mr. Armstrong of the questions asked by the "Fruit World"

editor of several Australians who had visited California. I trust that those growers and others who feel that the Government should control fruit organisation; those who are opposed to the use of many commission agents; those who are seeking to better the condition of the Australian fruit-grower may find serious thought in many of the points Mr. Armstrong so generously explained, and which I shall try to pass on.

Discussion the Exchange generally, Mr. Armstrong stated that it was a very loosely constructed organisation. That was a shock, yet it is true.

To find anything of compulsion one has to go back to the local packing association.

There the grower signs a contract to supply all his fruit to the Association for one year. As Mr. Armstrong put it, "the Association makes it easy for a man to get out if he wants to, but awfully hard for him to get back. Public opinion—the opinion of the majority—is against him, because the results achieved are so much in the grower's favor, taken from year to year, that anyone who quits because of something offered which appears better, is looked upon as a deserter by his fellow growers and is given ample time to repent.

"This Exchange can carry on only as it continues to get the results which the growers demand. If a better system of handling and distributing can be created, the growers are free to adopt it either through the Exchange or by some other medium.

"I sketched briefly to Mr. Armstrong the various Fruit Councils, Advisory Boards and Fruit Committees which adorn Australian attempts at organising the industry."

"California tried them early in its fruit history," he replied, "but they never got the results. About eight years ago the office of State Marketing Director was created. The aim was to get all the existing organisations to merge into one body controlling transportation and distribution of all classes of fruit grown in California. In fact it went further really so as to include all primary products. The movement was debated in many meetings and organisations, but the conclusion arrived at was that

specialisation in marketing separate fruits as already established was the more elastic, more direct, and more capable of meeting the many problems continually before the grower in getting his products satisfactorily marketed."

The Marketing Director still carries on. Primarily his work is to gather statistics, but the position is mostly political, and it is doubtful if it possesses much of the accurate information which the growers' organisations are continually receiving and compiling.

Being principally interested in the distribution as the first step in marketing the packed fruit, I asked Mr. Armstrong to detail operations. There are about 80 Exchange "selling points" in U.S.A. and Canada. In 54 of these the Exchange has district managers on salary basis, and these in turn have staffs running from two to 25.

In New York, where the Exchange turnover is about eighteen million dollars a year, the biggest force is maintained. The point is that most of the staffs are active salesmen. They scour the territory which each district covers, and sell direct to the wholesalers, endeavouring to get them to buy every box they can possibly handle. Their positions depend entirely on the success they make of such work. In the remaining 26 districts agents are used; this is mostly in the States close to Florida where sales are small.

These wholesalers are the backbone of the Exchange marketing. They are its financiers. They are given 48 hours to pay for each carload they buy. Yet they have to give the retailer a 30-60 day credit. If the Exchange decided to pass by the wholesaler and deal direct with the retailer, it would have to duplicate its storage, and give this extended credit. The Exchange is frank enough to say that it could not do it on the same margin of profit per box unless it undertook to handle all the other lines of fruit and vegetables the wholesaler handles.

Each wholesaler thus buys outright; he is not a commission agent. In respect to citrus fruits the Exchange has converted him from the old system to the new. He makes his profit on the margin on which he operates.

In San Francisco it is often 5 or 10 cents a box. I was told of a Detroit wholesaler who handled citrus, Grapes, Tomatoes, deciduous, etc., on a margin never over 5d. a case. He had a regular line of retailers to whom he sold by telephone and delivered. His profit for a year was over £5,000. He was entitled to all of it, and did more good to the producer than the man who made an equal profit by selling a fifth of the total, but charged five times as great a margin.

Thus the Exchange endeavours to make the margins on which both wholesalers and retailers operate as small as possible, and pushes the fruit into consumers' hands. Fruit on a tree is not income or profit to the producer. It is only when it is finally purchased for consumption that it has value.

This Exchange distributing costs 1½ per cent. per box. That is additional to wholesalers and retailers' profits, and is on wholesalers' buying price.

Of the advertising fund of about £160,000 annually, 25 per cent. is devoted to "trade work." In other

words, the growers spend £40,000 a year to help the agent do a bigger turnover on a smaller margin. The balance it uses to help the retailer do a bigger business by creating a bigger consumer appetite. 35,000 retailers were visited by dealer service men, who put in window displays, supplied display material, and cuts for advertisements which the retailer paid for. In addition, the Exchange usually does newspaper advertising in towns where dealer service work is being performed, to back the retailer up. These sales efforts have increased the turnover in these towns 66 per cent. to 75 per cent.

This last year Oranges were cheap. Instead of shipping blindly to markets and causing gluts the Exchange salesmen went after business in little towns that were not previously considered carload markets. As a result it sold carloads in about 200 to such towns, or an increase in one year of 25 per cent. in its carload markets. A fine example of vigorous salesmanship. It could not possibly happen under the consignment system.

Figuring 200 Oranges to a box, what is the per capita consumption of Oranges in Australia? Possibly no one knows. Here it was 30 in 1907. In 1923 it was 60. While population increased 33 per cent., consumption was forced up 100 per cent. I say forced, because it did not just happen. Salesmanship did it. Putting the fruit into places where a demand had been created by advertising.

By the use of extractors, sold to soft-drink establishments by vigorous salesmanship, some 600,000 boxes of Oranges were disposed of last year. Taken on a per capita basis this would be about 30,000 in Australia—nearly as many as were exported from there.

Data supplied to the "Fruit World" will deal more closely with the Exchange.

Let us turn to Walnuts. It may not be known in Australia that the Walnut Growers' Association is considered the most successful of all the co-operative selling groups. I heard Carlyle Thorpe, its very capable manager, discuss "some marketing problems" last week. I have heard nothing better. Talking to citrus growers, and as a citrus grower himself, he stressed the value of advertising.

"If the Exchange would make a levy of 15 cents a box on Lemons instead of seven," he said, "I know that

we Lemon growers

would not be up against the low prices we get every winter. Wherever the Walnut Association has gone into a big town and put on a strong selling and advertising campaign we have sold from four to ten times as many Walnuts as we ever did before."

Discussing distribution Mr. Thorpe was even more emphatic.

"Instead of spending huge sums on Lemon storage here in California, thousands of miles away from our markets, I believe we should establish these storages right in the centres from which we can reach the big markets quickest. Fruit sales are based on weather conditions. It should be possible to put fruit wherever the demand has arisen in quantities great enough to supply that demand whether for a brief or extended period. We cannot do that from here. Selling Lemons for 48/- a box is a wrong condition. It is only an occasional carload, but these high prices hurt the citrus business. The public does not like it. The retailer or the wholesaler gets loaded up on high priced fruit and when the cause passes away, as it rapidly does, he does not become a purchaser again until he has cleaned out or taken a heavy loss. If we could sell our

Lemons at 24/- a box as a regular summer price, the citrus grower would be permanently better off and have a bigger sale of his fruit."

It is unusual to find a man in such a position advocating cheaper fruit. Yet in his case,—and it is applicable elsewhere—results have shown its soundness.

"Selling organisations should be capable of changing their selling policy overnight" continued Mr. Thorpe. "In 1922, when post-war prices were maintained high, I returned from a study of Eastern markets and told my Directors that we had to drop selling f.o.b. California. If we were going to get the business we had to have the nuts right where the wholesalers could get them at once to catch demands as they arose. Nuts, therefore, were shipped and stored in logical centres for distribution and we sold out quicker than we had ever done before."

Discussing actual selling, Mr. Thorpe said "the policy of his association was to secure aggressive co-operation with the wholesale and retail trade. Their whole selling organisation was keyed to understand the wholesalers and retailers problems. Their salesmen had to start in at £3/- a week in a chain store (general provision store) for two months, then a similar time in a grocery store and 3 months in a wholesale grocery. The aim was to have salesmen get a close understanding of and feel acquainted with the actual customer, as well as obtaining and retaining co-operation of the wholesaler and retailer."

Another great point brought out was that of the competition the fruit-grower faced. Possibly not one grower in a hundred has ever even considered it. It is this.

"The housewife had a weekly amount for her purchases of foods. When she set out to get these sup-

plies she carried pictures in her mind of the tempting foodstuffs she has seen advertised in the papers she read. Taking breakfast foods, the grower of fruit should realise that most of these are backed up by a heavy advertising outlay, and the most highly specialised type of salesmanship. If the housewife spends a considerable portion of her allowance for advertised prepared foods, she has less to spend on fruit.

Where shredded wheat or corn-flakes, or similar food is given the children for breakfast, they are not going to get Apples, or Orange juice. So it has become a case of meeting specialised salesmanship and merchandising on the part of the food products manufacturers with similar work on the part of the fruit producer. It was a continual fight to get as much of the consumers allowance as possible.

They found their biggest consumption of walnuts was in the large industrial districts where wages were not high. Hence the food value of walnuts—the calories, the vitamins—had to be stressed in the advertising in such areas."

Thus it will be seen that Mr. Thorpe is

strong on salesmanship,

both by a sales force and advertising. He expresses himself similarly to Mr. Armstrong in the necessity for closest co-operation with distributors. Recently Mr. Thorpe has been offered the position of Sales Manager for the Raisin growers and for the Prune and Apricot growers Associations. He has investigated fully the past operation of both concerns, and the reorganised systems under which they plan to operate. He has not announced whether he will accept the offer, but he did give a talk on what he had found. I have just read "Observations on the Dried Fruits Industry in California" by Mr. E. J. Roberts, in January "Fruit World." I feel sure Mr. Roberts will be interested in Mr. Thorpe's remarks about the selling policy of these two Associations.

"I found," said Mr. Thorpe, "that as regards the selling of raisins, the policy had been to sell over 60% of the crop to the independent packers, and let them compete with the growers own organisation on the market. It is a wrong policy and has resulted in a huge carry over each year and from one year to another. The selling has not been operated on a basis of supply and demand. With the

Prune and Apricot.

growers it has been the same. The selling policy has been weak or negligible. In the recent organisation of this association the Walnut growers have loaned the services of Mr. Webber, our Sales Manager. Beginning his duties the first of December he sold

more Prunes in ten days than the Association had sold in the

previous two and a half months. Up-to-date he has averaged sales of a million pounds a day, and the big carry-over and last year's crop will be cleaned up when 1924 crop is dried. It has been the same with Apricots. Last season growers let thousands of tons of Apricots drop to the ground because there was supposed to be no market for them. Mr. Webber has sold 17,000 tons since taking charge."

I shall leave it to readers to get what they can out of the views expressed by these two very competent men.

Both are backed up in their work by that first and vital factor in co-operative marketing:—a reliable source of supply. Without that neither could carry on, for there would be no basis on which to operate.

Advertising has to have funds, and to be tied up with the right connections all along the line of distribution and selling.

A sales force cannot be organised and built up if it is not going to have the goods to sell.

Co-operation is vital between the original seller and the organised forces which handle the distribution from him to the consumer.

Each definite unit is linked to the other in getting the product from the grower to the consumer, when any one fails to function at its fullest capacity all the others suffer. Co-operative growers' marketing can be made a successful and valuable factor, but it requires a maximum of intelligence, and that properly trained, to direct it through the maze of marketing difficulties.

SCHOOLMASTER APPRECIATES THE "FRUIT WORLD."

(To the Editor, "Fruit World.")

School No. 299,
Harcourt, Vic., 7/4/24.

Sir,—For a considerable time I have been regularly receiving "The Fruit World." On the eve of my departure from Harcourt to take up duty at Eltham, I desire to thank you very sincerely. I have found "The Fruit World" of much use to me in my school work, not only in the special subjects in which it deals, but in others as well. For instance, the advertisement on page vi. works in nicely with a geography lesson on the seaports of England.

I like the journal very much. Its general "get up," letterpress, and illustrations are uniformly good. Surely no orchard home is complete without it.

Again thanking you.

I am, sincerely yours,

JOHN STEWART.

P.S.—The special articles, especially those of the late Dr. Benjafield, are particularly good.

Organising Prune Growers.

Association Formed in New South Wales.

THE NECESSITY FOR ORGANISATION amongst Prune growers is becoming more apparent, especially in view of the largely increased tonnages which from now onwards will be harvested, particularly from the soldier settlement areas. The effort of Prune growers of New South Wales to meet the changed situation is seen in the fact that

a Conference was held during December of last year at Griffith, on the Murrumbidgee Irrigation Areas, when delegates attended from Koorawatha, Griffith, Coolamon, Leeton, and Sydney.

Mr. E. E. Herrod was appointed Secretary.

It was decided that the membership fee should be 5/- per annum, with a contribution of 1 per cent. on sales to cover the cost of general expenses and publicity.

The necessity for the organisation of selling and advertising was emphasised, and it was decided that a standard 10 lb. box, with inside measurements of 12 x 6 x 4 be substituted for the 14 lb. box, but the present stocks of other size might be used for the 1924 season only. The usual 28 lb. box will still be used.

The Conference was unanimous in its desire to maintain a high standard of quality, and recommended the Executive to consider the advisability of issuing a circular giving instructions to growers regarding the best methods of processing, harvesting, and any other points considered necessary. It was also decided to recommend members to grade in tens.

The undermentioned officers have been elected:—

President, Mr. Dixon. Executive: Messrs. Case, Thompson and Norris.

It was also decided that the Executive be authorised to appoint a Secretary and Treasurer, and to fix remuneration.

We wish the Prune Growers' Society all success.

PRUNE PRODUCTION IN OREGON, U.S.A.

Germany Buys 50,000,000 Pounds.

The annual production of Prunes in the Vancouver, Clarke County, Washington, district of U.S.A., totals 10,500,000 pounds. There are 700 Prune growers in this country with an area of 5,000 acres. All fruit is marketed under the "Mistland" brand, and sold mainly through the Washington Growers' Packing Co-operation of Vancouver. Since December last it is estimated that more than 50,000,000 pounds of Prunes have been purchased in the United States by Germany. Before the war Germany purchased 100,000,000 pounds annually from U.S.A.

The Pineapple Industry of Hawaii.

Experiments and Practice.

Paper Mulching.

(By Major Daniel E. Evans, D.S.O., M.I.E.S., M.I.M.E.)

THE FOLLOWING ARTICLE on the Pineapple Industry of Hawaii, by Major Evans, is reproduced from the "Queensland Agricultural Journal." Major Evans is well known in Brisbane business and professional circles, and the notes are the result of observations made during a recent visit to the Hawaiian Islands. They cover experimental activities, methods of cultivation, and economical treatment of the product; also the manufacture of by-products and the use of paper of local manufacture for mulching purposes. He says:

I was much impressed with the large production of the Pineapple in the Hawaiian Islands, and the care taken in the selection of seed plants and cultivation. Last season 6,000,000 cases of canned Pineapples were exported from the Islands. As may be expected, considerable experimental work was necessary to work up such a large industry. Until recently,

the Pineapple experiment station existed as a department of the Hawaiian Sugar Planters' Association experiment station, but it was found that this relationship was inadequate, and a decision was made to acquire a piece of land and go more extensively into experimental work with Pineapples.

The separation of the Pineapple experiment station from the sugar experiment station took place at the beginning of 1923, and it was about this time that work was begun on the new station at Wahiawa, and as soon as the plant had progressed far enough the Pineapple people moved into their new quarters.

The station consists of one office building, three glass houses, one lath house, one combined warehouse, store-room and implement shed, one stable, three houses for labourers, and two residences for members of the staff.

All buildings are one storey wooden structures, and, with the exception of the two residences, all are painted dark green with white trimmings. The residences are painted dark red, with light red trimmings.

The largest of these buildings is the lath house, which is about 50 feet by 110 feet. This building is said to be already too small, and it is planned to enlarge it next year.

The glass houses are each 18 feet by 40 feet. At present the station has 60 acres of land, half of which

is being planted this year. The rest will be planted next year. In 1925 another 40 acres of land will be available, making a grand total of 100 acres.

The Cayenne Variety.

The head of the experiment station is said to have stated that the Cayenne is the best commercial variety of Pineapple. The Cayenne Pineapple was first grown in the hot houses of England, where it was tended with the greatest of care. It is said to be produced commercially in only a few parts of the world, Hawaii being the most outstanding. The station staff are of the opinion that better strains of this variety may be selected and developed, but a better variety can not be had.

It has been observed that some Pineapples use up much of their strength in throwing sprouts, while others throw a very fine commercial fruit. Naturally the former has higher propagation powers, and in late years has been multiplying more rapidly than the others; but as commercial fruit is that required, efforts carefully directed are being made to weed out the less desirable type and replace with a heavy fruiting strain.

Great care is used in

Handling the Seedlings.

They are first planted in covered moist chambers on cardboard, which rests on inverted saucers surrounded by water. Here they germinate and start little shoots and leaves. Later they are transplanted to soil, and are placed in the glass greenhouses, from which they are eventually transplanted to the lath house, and finally to the field where they are exposed to the full sunlight. When first removed from the lath house the plants are still in their containers, and on being accustomed to their new surroundings they are removed from the containers and placed in the field.

In the glass houses the young plants have a tempered sunlight and are fully protected from the weather.

The lath house exposes the plants to half sunlight and partially protects them from the weather.

In these buildings every stage, from seedling to mature plant, is specially cared for. In normal field practice the tops or some other hardy part of the plant is used, and it is not necessary to take so many precautions against the sun or weather.

Quarantine.

Strict quarantine exists to protect the Cayenne and other varieties from insects that thrive in other parts of

the world. Should the experiment station require to bring a new variety into the Islands, it could do so only in a very round-about way. The plant would need to be kept in quarantine in Washington for a year or more, then it, or one of its descendants, would be sent to the Islands, there again to be kept in quarantine for another long period, so that it would require a few years to introduce a new variety.

Labour-Saving Machinery.

The development of labour-saving machinery is most marked. A combination sub-soiler and plough and a paper-laying machine are two important achievements in this direction.

The sub-soiler and plough, which is drawn by mules, drops to the sub-soil and then ploughs the ground.

The paper-laying machine is made in the form of a sled, which carries the paper roll. The machine is drawn by mules or tractor, and smooths the furrows as it moves along and lays the paper; an attachment behind the paper roll crowns the edges of the paper to keep it down.

Manufacture of the Paper.

Most sugar mills in the Hawaiian Islands have considerably more excess of megass (cane fibre) than is required for fuel for crushing and manufacturing. This is used in a variety of ways—fuel in factory during the slack season, fuel for irrigation power stations; while the Olao Sugar Company's factory on the Island of Hawaii convert their surplus megass into paper for use in the planting of sugar-cane and Pineapples. This sugar factory, when crushing 60 tons of cane per hour, averages 25 to 30 tons of surplus megass in 24 hours, which all goes through the paper mill. Samples of this paper were collected.

Pineapple Canning.

I had the opportunity of inspecting the Queensland State Cannery when they installed modern Pineapple machinery in the form of Ginaco machines about the end of 1918, and I was naturally interested to see the development since that date. I visited the Baldwin Packing Company's Cannery at Lahnia, on the island of Maui, and the Californian Packing Company, Honolulu. Both these canneries are fitted with Ginaco machines. The latter place has nineteen on one floor with an output of approximately 2,500,000 cases of canned Pines per year. Many improvements have been made on the machinery as installed at the State Cannery, and these could be easily fitted if royalties on patents can be arranged.

System of Handling.

The Pines are taken from cases at landing stages and placed on the Ginaco machine conveyor. The conveyor elevates the Pines to the machine, where they are skinned and cored in one operation, and then fall on a travelling rubber belt. Any Pines that need trimming on the ends,

due to any peculiar shape of the fruit, are touched up on a special cutter running at a speed of 1,800 revolutions per minute (this machine has been responsible for saving at least two hands per machine), and further hand trimming is attended to while travelling along to the slicing machine. After slicing, the fruit travels along a ribbed rubber belt. The ribbing allows of the Pine slices being easily lifted for placing in the tins.

Pineapple Crush.

This is the term agreed upon by canners for broken slices and good whole pieces of Pineapple. These large pieces of broken Pineapple are put through a mincer, canned, and treated separately, and the "crush" is largely used for salads, pies, etc. Supply is only about 75 per cent. of the demand for this product.

Pineapple Jam.

Jam is made from the Pineapple fruit scraped from the skins in a machine called a skin eradicator. In the installation, as arranged by the California Packing Company, the skins are automatically fed into the Fisher Patent Eradicator with the Opperman patent attachment. After the fruit is separated from the skin the fruit passes along the conveyor to brass jam pumps, and thence to boiling pots. The skins pass to the conveyor on to grinding mill.

Treatment of Skins and Manufacture of Syrup.

The skins are then treated in a similar manner to sugar-cane. Methods differ slightly in various factories, but the ultimate objective is the same—the conservation of all juice and the manufacture of syrup.

The skins are passed through shredders, rollers, or, in the case of the Baldwin Packing Company, a worm press similar to a Grape-press.

The extracted juice is then pumped to liming tanks and neutraliser. After treatment by liming it is pumped to a heater and elevated storage tanks. Clarification and filtration, similar to sugar-mill practice, are carried out, and finally the Pineapple juice, in the form of a golden fluid, is run into storage tanks for supply to Pineapple being canned.

One gallon of juice treated as above is equal to 1 lb. of sugar, and it is claimed that the Pineapple takes a better colour and flavour than when treated with ordinary sugar syrup.

Evaporation of the Juice.

Some of the canneries evaporate a certain amount of water from the juice, while others claim the evaporated syrup darkens the Pineapple, while the original clarified juice gives the true golden colour.

The Future of the Industry.

Big projects are in hand for extending the industry and increasing supplies. Included in the lands of Upper Hoolehua and Palau, connected with the proposed Waihanau water development project, are some

4,000 acres of the best Pineapple land in the territory, and conferences between the Hawaiian Homes Commission and local Pineapple people brought out the fact that a settler, assisted by his wife and three or four children, can take care of approximately 30 acres of Pineapples after the land has been ploughed and the fruit planted. The only outside assistance they will need, according to the "Honolulu Star-Bulletin," will be at harvesting time. Provided the settler is successful, he can clear 1,000 dollars an acre in a four-year period, or 30,000 dollars from 30 acres in four years, or 7,500 dollars a year.

If it is decided finally to introduce Pineapple cultivation, and if the commission is convinced that one family can care for 30 acres, arrangements will be made whereby this size of tract may be allotted to a single family.

The opening of the lands of Hoolehua and Palau will constitute the second unit of the Hawaiian rehabilitation project. The first unit is now established on the lands of lower Kalamaula, near the port of Kaunakakai, and is known as Kalanianaole Settlement, being named after the late Prince-Delegate Jonah Kuhio Kalanianaole, who fathered the rehabilitation project.

PINEAPPLE CULTURE.

The Industry in South Africa.

The following interesting notes on Pineapple growing in South Africa may be quoted from the January issue of the "Journal of the Department of Agriculture" of the Union, which says:—

There are large areas in the Union producing this fruit, especially near Bathurst, and in the eastern districts of the Cape Province. Here, as many as 5,000 acres are under cultivation in one block, besides thousands of acres in the same area belonging to individual farmers. Natal and the north and north-eastern Transvaal also produce large quantities of Pines.

The export trade has assumed large proportions, and the Pines from the Union seem to be more and more appreciated overseas, and prices are consistently becoming firmer. Large quantities of the fruit are also being canned, mostly for export to America. Pines have also been dehydrated, and make a good dried product, but this phase of the industry has not yet assumed appreciable dimensions.

The Culture of These Fruits

is very simple. Suckers from the already established pineries are set out in rows about 6 feet apart, and plants 4 feet apart. The ground is kept loose by constant cultivation, and light crops may be harvested in the first year, and thereafter paying

cuts up to eight or more years. When the plants become crowded through the growth of suckers, it is well to prune—that is, to thin out the superfluous suckers so that a smaller number of fruits, but of very much finer quality and size, are obtained.

The plants fruit almost throughout the whole year, but January, February, and March may be said to be their heaviest bearing period.

In Harvesting.

the fruits are cut from the plants, and if intended for export, are packed with wood-wool in suitable boxes containing from ten to twelve Pines. They are carried both in ships' ventilated hold and cold chamber, the latter being preferable. Pines reserved for the canning factories are usually carried in the picking-boxes or in bulk loose in the railway trucks.

ENGLAND'S FRUIT IMPORTS.

The United Kingdom imported 26,000,000 hundred weight of fresh fruit, valued at £26,000,000 in 1922, according to figures compiled by the U.S.A. Department of Commerce. Three million boxes of this fruit came from the United States.

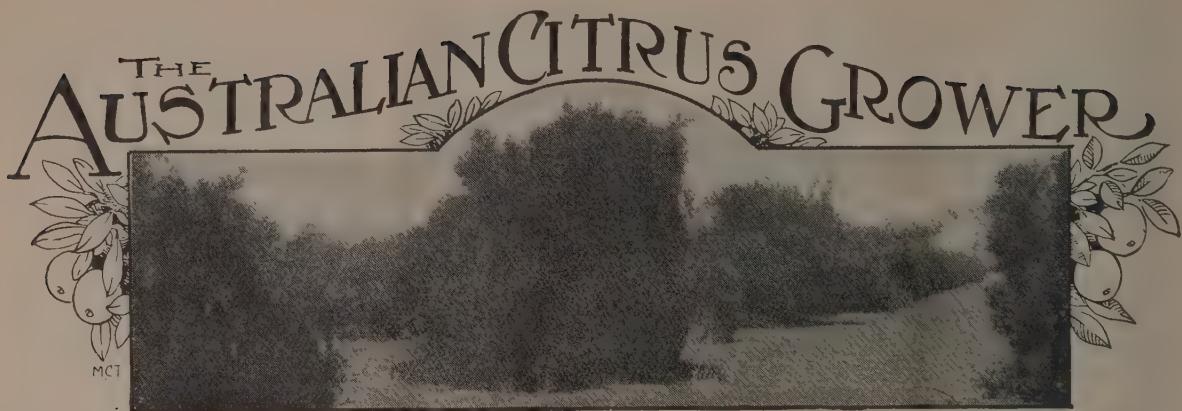
Final figures for the Apple season of 1922-23 show 3,245,404 boxes, and 1,681,985 barrels imported, an increase of 24 per cent. and 37 per cent. respectively, on the previous season. Canada shipped in the equivalent of 4,566,560 boxes of 40 pounds each in 1922. English home-grown Apples from July to March amounted to the equivalent of 8,500,000 boxes of 40 pounds each, equalising the combined imports from the United States and Canada. Probably one-half of this quantity is competitive with the imports.

AMERICAN FRUIT EXPORTS.

Quality and Packing Not Superior to Australian.

Those who are prone to decry the quality and packing of Australian fruit, holding up American fruit as the acme of perfection, will be interested to know that Mr. S. B. Moomaw, a large import distributor of London, gave this report, which is published in "Better Fruit":—

"It continues to be a fault in shipments," said Mr. Moomaw, "that inferior grades and unsuitable lots are sent in such quantities. It ought to be more appreciated by producers and shippers that this not only increases their risks of loss on these grades themselves, but tends to depress market values and keep down the prices that would otherwise be received for the better grades. In this sense, the worst competition of American and Canadian Apples in these markets comes from American and Canadian Apples themselves."



Citrus Organisation in California.

Distribution of £16,000,000 of Fruit.

(From Annual Report of Earl G. Dezell, General Manager California Fruit Growers' Exchange.)

THE citrus fruit season of 1922-23 just ended has shown the largest total supply in the markets of the United States and Canada in their history. Due to the effects of the cold weather in January, 1922, shipments from California were somewhat lighter than in the season of 1920-21, but Florida shipments were much larger than in any previous year, and with the imports of Porto Rican and Cuban Oranges and Grapefruit, Satsumas from Japan, Lemons from Italy and the production in Arizona, Texas, Louisiana and Alabama, a total of approximately 100,000 carloads of Oranges and Grapefruit, and 13,000 carloads of Lemons has been consumed. Of these, California shipped 50,966 carloads of Oranges and Grapefruit and 8,741 cars of Lemons.

[A carload contains about 750 cases.]

The successful marketing of this great volume proves the extent to which the public's desire has been developed for those delicious and healthful fruits.

The supplies of Oranges and Grapefruit have trebled in the last twenty years, while the population of the United States and Canada has increased only about one-third. Through improved handling methods, broader distribution and intensive educational work with the consumers, the demand for citrus fruits has been kept in pace with the increased supplies; they are available every day in the year and have become staples with the trade and part of the daily diet of the public.

Shipments and Returns.

There were shipped through the Exchange during the year ended October 31, 1923, 36,999 cars of Oranges and Grapefruit, 8,259 cars of Lemons, making a total of 45,258 cars, or 75.8 per cent. of the citrus fruit shipments from the state, as compared with 68.7 per cent. the previous season. The increase in membership in the Exchange reflects the growing appreciation on the part of growers of the advantages of and need for a

more united effort in the handling of their problems of distribution and to secure most economically the maximum service that can be rendered in the marketing of their fruit and in developing the demand to care for future increased production.

The returns to Exchange members f.o.b. cars California for the year, estimating the value of the cars yet unsold were £11,044,670, with a delivered value to the wholesale trade of £16,251,634. Based on exchange returns, California received £14,201,541 for the total crop, the delivered value of which equalled £21,097,301, the latter including £6,895,760 for freight and refrigeration.

During the year exchange losses through failure of customers have amounted to but £1,385.

Returns to California on exchange shipments during the past 20 years have aggregated £109,200,000, while the credit losses during that period have amounted to only £4,854, or 44/10,000 of 1 per cent. of the f.o.b. returns.

Cost of Service.

One of the many advantages derived from co-operative marketing is the reduced cost of the more efficient service thereby provided—a service impossible of being rendered by the individual grower or small group of growers.

The Exchange service assumes various forms and its benefits extend not only to the grower but to the jobber, the retailer and the public at large. Its objectives include

economies in production by reducing the cost of orchard and packing house materials through quantity purchasing, standardisation of grades and packs, improvement in handling methods to minimise decay and waste, proper distribution, the development of new uses of citrus fruit, the increasing of consumer demand, the enlargement and creation of markets and the development of by-products from the unshippable fruit.

Exclusive of advertising, the Exchange service cost an average of 5.44 cents per box for the year ended October 31. Following a light year, the forces were augmented as occasion demanded during the season, and the organisation is in good shape to properly handle the large crops in sight for the coming year.

The average cost of the district exchange service was 1.42 cents per box, making the total average operating cost of the Exchange marketing service 6.86 cents per box, which is 1.51 per cent. of the delivered value of the fruit and 2.22 per cent. of the f.o.b. returns.

The cost of the national advertising campaign was met by an assessment of 4 cents a box on Oranges and Grapefruit and 6½ cents a box on Lemons, making a total cost for marketing and all other services of 2.49 per cent. of the delivered value of the fruit, which is, it is believed, less than the cost for marketing alone of any other perishable food products with national distribution.

Advertising Department.

With a citrus fruit supply for the American market which was the largest on record, there have existed during the past season both a maximum necessity and opportunity for advertising. A consumption of over 40,000,000 boxes of citrus fruit by the 26,000,000 families living in the United States and Canada clearly indicates that these fruits have definitely emerged from the luxury class and are taking their rightful place as staples in the diet.

Advertising has assisted materially in bringing about this condition. Citrus fruits are esteemed, first, because of their appeal to the appetite, and, second, because of their outstanding healthful qualities. It is the purpose of the advertising conducted by the Exchange to broadcast facts concerning these healthful qualities and to keep constantly before the public the many and varied uses of Oranges and Lemons. A general appreciation of these facts is reflected in an improved consumer demand, which is the basis of marketing success.

The buying public is not concerned with the costs of production of Oranges and Lemons; the price they are willing to pay for these fruits depends upon the intensity of their desire for them as compared with the numerous other products which are constantly competing for buying preference in the markets.

Every means is taken to reach the millions of possible customers with authentic information about Oranges and Lemons. Approximately 46,000,000 copies of leading magazines carried a page in natural colors pointing out to their readers the usefulness and desirability of Sunkist California Oranges or Lemons. More than 151,000,000 copies of newspapers carried Sunkist advertising messages during the season. Posters and street car advertising aided in disseminating the same information. News articles, photographs and specially prepared material on the California citrus industry were constantly furnished to newspapers and magazines with the same end in view.

The housewives who daily prepare the family menu are the best customers for Oranges and Lemons, and 195,000 of them indicated their active interest in these fruits by writing for Sunkist recipe books or purchasing Sunkist recipe files during the year in response to advertising offers.

Dealer Service.

Next in importance to convincing the consumer of the soundness of the reasons for using more Oranges and Lemons, is the necessity of securing maximum interest in and attention to these fruits on the part of the 400,000 retail stores which sell them.

Good display, reasonable margin, and rapid turnover are axioms in the merchandising of fruit, and it is around these principles that the activities of the Exchange dealer service work are centred. This phase of advertising activity was established by the exchange in 1916 and each year, except for short crop years, has been enlarged until at present approximately one-fourth of the advertising investment of the Exchange is expended in work with the dealers.

The force of dealer service men this season called on 25,719 retail stores handling fruit, rendering intelligent merchandising service and disseminating practical sales advice based on careful observation and study of

effective fruit - selling methods throughout the country. These men distributed Sunkist display material and personally arranged displays in two-thirds of the stores they visited.

In addition to the retail dealers reached by personal visits, access was had to a much larger number through correspondence from the Los Angeles office. Circular letters, broadsides and other mail matter stressing the same principles and practices covered in the personal work are regularly sent to the leading retailers. Requests for display material and other selling aids resulting from this correspondence numbered 16,235.

The popularity of orangeade and lemonade at the soda fountain has been suppressed in the past because of the time and trouble involved in the preparation of these drinks from the fresh fruit. This condition likewise gave rise to a host of substitutes and synthetic beverages in imitation of these wholesome drinks. The electrically-operated Sunkist extractor, manufactured and sold at cost by the Exchange, provides both a labor-saving and time-saving device for making these drinks to order from the fresh fruit. Soda fountains, hotels, cafes, hospitals, ice cream manufacturers and others are thus provided with a practical, inexpensive machine for quickly and conveniently extracting Orange and Lemon juice.

The sale of the extractors is followed up by the exchange with service to the fountains helping them to conveniently obtain their supplies of fruit, suggesting displays and advising in the preparation of the drinks so that maximum business may be realised.

A Forward Look.

A constantly increasing production not alone of citrus fruits, but of all other varieties which compete to some extent with citrus for the appetite preference of the consuming public, necessitates even greater strides than have been made in past years in developing the fruit demand. The consumptive capacity for all food products combined retains a rather fixed ratio to the population. An increasing share of public preference for citrus fruits can be won only through perfected distribution and continuous dissemination of the sound reasons for their greater use. In accomplishing this, advertising must needs play a leading part.

The foregoing is a summary of the annual report of the Californian Fruitgrowers' Exchange, republished from "Better Fruit."

COLORING CITRUS FRUITS.

Writing to the "Fruit World" in reference to the use of Ethylene Gas for colouring citrus fruits, the editor of the "California Citrograph" says:—"The application of Ethylene Gas in California is revolutionising the acceleration of maturity of Oranges and Lemons."

A New Disease of Citrus Trees.

Leaf Blight is Troublesome.

Some Timely Suggestions.

(By W. M. Carne, Botanist and Pathologist to the W.A. Department of Agriculture.)

BRown ROT of citrus trees is becoming of increasing importance throughout the Orange growing districts in Australia, writes Mr. Geo. W. Wickens, Officer in Charge of Fruit Industry, Western Australia, who forwards a very interesting report by Mr. W. M. Carne, Botanist and Pathologist to the Western Australian Agricultural Department. Mr. Carne's article is as follows:—

Investigations of the Citrus Brown Rot (*Pythiacystis citrophthora*) during the last season (1923) demonstrated the existence of another disease in association with it. This disease has been provisionally named Citrus Leaf Blight (*Phytophthora* sp.). The fungus has not been specifically identified, and much investigation remains to be carried out into its life history.

Leaf Blight Symptoms.

Dark watery patches appear on the leaves, especially towards their tips. Affected leaves curl and fall while still green and soft. The twigs are affected and die. In bad cases, and especially on Lemons, whole trees may be rapidly defoliated. More commonly partial defoliation occurs. It has been noticed that frequently a strip of varying width is badly affected from bottom to top on the southern side of a tree. Though damage is usually most severe on the lower branches, affected leaves may be found at the tops of the tallest trees.

The result of Leaf Blight is to throw the trees back, and to seriously affect the crop of the succeeding season.

In every case where Brown Rot has been found Leaf Blight has been associated with it. On the other hand Leaf Blight has been found in many orchards where Brown Rot was not detected.

Leaf Blight is closely related to Brown Rot, and, like it, appears to be a soil-living fungus. It occurs at the same time, i.e., during the

autumn to spring months, while the ground is wet and the temperatures low. It differs from Brown Rot in its ability to produce its spores on the affected leaves and twigs on the tree, and it has not been found to attack fruit in the orchard.

That Brown Rot attacks leaves on the trees requires proof. So far I

am not aware that it has been demonstrated. In one case I found it producing spores on the leaves of cuttings of nursery trees which had been lying on the ground. Fawcett and Smith, in California, have shown that Brown Rot produces spores on the soil or on fruits in contact with the soil.

In Leaf Blight the spores are rapidly formed on the affected parts when wet with rain, and are easily shaken or blown on to other parts of the trees. The disease, therefore, spreads more quickly than Brown Rot, in which all infection must come from the soil.

So far there is no evidence of spores being formed on the blighted twigs of the previous season. If this is true, infection each season must come from the soil, and the treatment for Brown Rot and Leaf Blight would, therefore, be on similar lines.

It is very probable that in his article, entitled, "A New Citrus Disease" (Vict. Journal of Agriculture, June, 1921) Mr. C. F. Cole confuses the two diseases under his description of Brown Rot.

Leaf Blight may be distinguished from Brown Rot in the following points:—

Leaf Blight.

Part attacked—Leaves and twigs on trees.

Spores produced on—Leaves and twigs on trees or on soil.

Brown Rot.

Part attacked—Fruit on trees.

Spores produced on—Fruit and leaves on soil.

Botanically, Leaf Blight may be distinguished by the size and shape of its spores, and the development of resting spores, which are unknown in Brown Rot.

The disease is serious when and where Brown Rot is serious, and because of their similarity it is hoped that a similar control treatment will be effective in both.

Experiments on this line will be made this season.

Anhydrous Liquid Hydrocyanic Acid.

For Orchard, Nursery, and House Fumigation.

Value to the Citrus Industry.

Representing the Cyanide Gas Company Ltd., of Claremont, Cape Province, Messrs. Goodenough and Richards, of South Africa, have arrived here in connection with the patent rights for Anhydrous Liquid Hydrocyanic Acid, a new agent for fumigating fruit trees and nursery plants as well as for domestic fumigation. A booklet has been issued by the Company describing this acid, its production and use, and the following particulars may be quoted.

Properties of the liquid.

Fumigation with ordinary hydrocyanic acid gas is very widely practised, but there are certain drawbacks

attached to its use. These, it is claimed, are eliminated in the new liquid hydrocyanic acid, a clear colourless liquid with a peculiar characteristic smell of bitter almonds. This liquid is much lighter than water, and will evaporate at very low temperatures. It may be mixed with water in all proportions, solutions over a strength of 5 per cent. burning readily.

This new fumigating agent has been produced as the result of experiments conducted by Mr. C. W. Mally, Senior Entomologist of the South African Department of Agriculture, and is now manufactured on a commercial scale. It is useful for fumigating citrus and other trees affected by scale insects, and is also suitable for fumigating buildings, hospitals, railway carriages, etc.

It kills weevils in grain, seeds, and tobacco, either in bags or bins. For this purpose the dose is six fluid ounces for every 1,000 cubic feet of



Mr. B. S. B. Cook, Secretary of the Victorian Central Citrus Association.

space, with an extra ounce for every 100 cubic feet occupied by grain. The liquid is so packed in hermetically sealed ampoules or flasks that each contains the dose for one tree. This does away with all measuring and weighing, and mixing with sulphuric acid which was previously necessary. The liquid has no effect on canvas or other materials or metals, and trees can be fumigated in daylight without injury resulting.

Method of Using.

Experiments carried out by the United States Bureau of Entomology show that the best time to fumigate with liquid anhydrous hydrocyanic acid is from sunrise to about 10 a. m. and from 3 p.m. to sunset, with an exposure of 45 minutes. "Fumigation of citrus trees can be carried out at practically any stage of their development, but from the time when the main crop of blossoms begins to set up to the time when the fruit is about the size of a marble, the trees are most susceptible to the gas. Hence fumigation should be avoided during that period."

Fumigation should be done in the dry season if possible. This in South Africa is the winter, but under

Australian conditions the summer would be the most suitable time. The killing off of the scale benefits the tree, and in addition, the fumigation itself appears to have a beneficial effect, as new shoots appear soon after.

When fumigating citrus trees the tent is placed over the tree in the usual way, but all that is required is to turn the small bottle or ampoule of liquid hydrocyanic acid upside down. Then drop the skirt of the tent and cover with earth. Unless the soil be very wet there is no loss by absorption. The liquid quickly evaporates and no trace of it remains in the soil. If it is necessary to fumigate when the ground is wet, break the ampoule on a piece of canvas. The gas as it vaporises from the liquid is at about the same temperature as the air, hence it diffuses evenly throughout the tent and within a minute every part of the tree is bathed in an even strength of the gas, whereas with the old form of gas, its effectiveness was usually greater at the top of the tree, scale on branches near the ground often escaping entirely.

Nursery Fumigation.

This is carried out in a properly constructed chamber which should be kept dry, and all plants, trees, etc., to be fumigated should be as free from moisture as possible.

Liquid Hydrocyanic Acid may also be used effectively for killing rats, mice, or ants, clothes-moths, borers in furniture, and other articles. The gas does not injure fabrics or furniture of any kind. The precaution should be taken of not inhaling the gas, the rooms being opened from the outside and allowed to air for a couple of hours before entering. There is no danger from the gas if used according to directions, but care should always be taken to keep to windward of the broken containers.

The Cyanide Gas Co. Ltd. has published many interesting testimonials from entomologists, fruitgrowers, administrators of public buildings, etc.

CITRUS TREES ON THE MURRUMBIDGEE IRRIGATION AREA.

In reply to a query regarding the dying of certain citrus trees on the Murrumbidgee Irrigation Areas, Mr. E. S. West, the Government Research Officer, writes as follows:—

Several citrus groves on the Murrumbidgee Areas have suffered a setback during the last year. Most of these groves have since recovered so far as their foliage is concerned, but their present crop has been very seriously reduced. The cause of the trouble is badly drained soil conditions. Last winter there were a few very wet months. In orchards at all badly drained the soil became saturated with water, with the result that

the young fibrous roots were killed, and in some cases even the larger roots died. The result of this was the defoliation of the trees affected as soon as the spring set in.

The aerial portions of the trees died in proportion to the extent of damage done to the roots. In some cases all the main arms died. As usually happens under these circumstances, in the summer the trees put out new growth and in some cases recovered to such an extent that a casual observer would not notice that anything was amiss, except, perhaps, that the trees only carried a very light crop. Where the trees were badly affected they would make a slight attempt at recovery, but would ultimately die. This is a very common course of events in cases like this. The small roots having been killed, much of the foliage dies, owing to the inability of the roots to supply the requisite sap. This relieves the roots of the strain of supplying heavy aerial portions and new rootlets are formed. With an appreciable root system again established, several new shoots are produced. This course of events resembles a natural pruning of the tree.

It has been noticed that the older orchards have generally suffered more severely than the younger orchards. This has been so to such an extent that some people are beginning to be apprehensive as to the life of Orange groves on these Areas. If the drainage is improved, however, there does not seem to be any cause for anxiety. The real and final remedy in most cases lies in the laying of underground tile drains. The great difficulty here, of course, is the cost.

The past winter was very severe on many of the Orange groves of the Area. Injury over appreciable areas was common, and it was very usual for odd trees to die here and there. Occasionally a few acres of Oranges were completely killed, but such severe injury as this was exceptional. Through this and other conditions the crop at present on the trees is very light.

FERTILISING CITRUS TREES.

Success still follows the experiment in the manuring of citrus trees carried out at the orchard of Mr. H. H. Giles, "Burnside," Kurrajong, during the past five years. Three plots containing 20 trees each have been used in this trial, half the number consisting of Washington Navel and the balance Late Valencias.

The results go to prove that nitrate of soda in conjunction with potash and phosphatic manures, is a good fertiliser for citrus trees. It is a quick-acting fertiliser, and is immediately available for the use of plants as soon as it goes into solution. It gives quick returns and large profits when properly applied, and is thus suitable for the acid soils of the Hawkesbury district.

The results for last season were as follows.—

Washington Navel Oranges.

Plot 1.—No manure, yielded at the rate of 81 cases per acre, the value being £40/17/6.

Plot 2.—Manured with 8lbs. per tree of a fertiliser containing superphosphate and potash gave a similar return.

Plot 3.—Manured with above fertilisers, together with 4lbs. per tree of nitrate of soda, yielded at rate of 392 cases per acre, the value being £196/4/-.

Late Valencia Oranges.

Plot 1.—No manure, yielded at the rate of 98 cases per acre, the value being £58/17/11.

Plot 2.—Manured with superphosphate and potash (in same proportion as the Washington Navel plot), yielded 38 cases per acre, valued at £22/17/4.

Plot 3.—Manured with super. potash and nitrate of soda, yielded at rate of 316 cases per acre, valued at £189/13/1.

Answers to Correspondents.

Grafting Pears: *Aphis and Borer*.

Grafting Pears.—"Portland" writes:—"I have 400 Pear trees recently grafted to Williams'. This was a mistake, as I am too far from the market. I am tempted to grub them out and plant Apples. What are the best kinds of Pears to graft? Boscs and Broom Park do well. What demand is there in Queensland?"

Answer (by J. M. Ward, Superintendent of Horticulture, Vic.)—

Both Beurre Bosc and Broompark Pears are good keepers in cool store, more particularly the latter. Either of these are suitable for the Brisbane market. The former should be marketed in Queensland at an earlier date than Broompark. This Pear, on account of its keeping and carrying qualities, is the more suitable to be forwarded from Brisbane to inland and northern towns.

If your soil is of good quality, you would be well advised to work some Josephine de Malines on to your present stocks. This, as is well known, is a good Pear for cool storing and shipment outside Victoria. Would advise you to use the "strap" graft when re-working your Pear trees.

Answer (by P. Val. Kerr, Mitcham, Vic.)—

"I would strongly advise that the Pear trees be retained in preference to grubbing them and planting Apples. The varieties mentioned are good, particularly Beurre Bosc. This Pear is excellent both for interstate markets and for export: the tree is also a good grower and consistent bearer. Although Beurre Bosc and Broompark do not bloom

synchronously, they overlap sufficiently for cross fertilisation purposes, and are inter-fertile (one season's experiment only). I would advise using as few Broomparks as possible, making Beurre Bosc the main line.

"The market in Brisbane for both varieties is good."

Answer (by A. F. Thiele, Doncaster).

Apples would be a better proposition in your district, but if the Pear trees are established, I would graft them with Bosc or Broompark, or any other good carrying variety. Great quantities of Pears of all sorts have been planted of late not only in Victoria, but also in all the other States, so we must look for markets outside Australia for the surplus.

Aphis and Borer.—J. P. B. asks:—

(1) What is the nature of the trouble affecting Pear trees in the Doncaster and other districts? (2) The Root Borer. Is any special report available relating to the work of the Government tests?

Answer (by A. F. Thiele, Doncaster).

(1) Pear trees are troubled with many pests, but the latest scare which got about is the aphis affecting the fibrous roots. But in my opinion it is not so serious as some people think. The main cause of the trees looking so bad last spring was the two years' drought, and the trees were not able to make fresh fibre.

(2) I have not heard anything new about Root Borer. He is still going strong in many orchards, and his doings are often put down to other causes. When we were at Dookie early in April I had a look at their orchards, and they said the trees were too old, so they were pulling them all up and planting young ones. On examining the roots I found them eaten by the Root Borer, and I find the same thing wherever I go. The main trouble always seems to be either Root Borer or wet feet.

Answer (by J. M. Ward (Horticultural Superintendent, Victoria)).

(1) The worst trouble affecting Pears in the Doncaster district is the root borer, though aphis is showing on the roots of Pears in this and other districts. The extent of the damage caused by the aphis has not yet been defined, as it has only in the last few years been found on Pear roots, and other factors are associated with it causing very marked debility in the tree, thus increasing the effects of the aphis.

(2) The experiments on root borer are in the hands of the Science Branch with the assistance of an officer of the Horticultural Division. These are not yet finalised.

Tasmania.

State Advisory Board : Fruit Shipments : Dehydration :
 Tamar Show : Items of Interest.
 (By Our Correspondent.)

THE GENERAL IMPROVEMENT in climatic conditions during the earlier part of April was much welcomed by growers. Apple and Pear varieties are ripening more evenly and picking, packing and marketing operations have been progressing under more favorable conditions.

Apples.—Shipments to overseas markets are regularly going forward, but are below the quantities forwarded in 1923. To date (April 14th) approximately 500,000 cases of fruit have been exported, the corresponding figures for last season being 630,000 cases.

Prices on inter-state markets have been well maintained for all varieties, colored dessert kinds realising up to 12/- and 14/- per case. Indications point to a

short supply later

in the season and it is expected that high figures will rule for good keeping kinds; buyers are readily securing all available lines.

The evaporating factories commenced operations at the beginning of March, and are processing fair quantities of the lower grade fruits.

Pears.—These are generally satisfactory crops, and are more free from disease than most Apple varieties. Regular consignments are going forward to interstate markets, and are bringing prices ranging from 4/- to 6/- per half case.

A special shipment of choice export varieties was shipped overseas by the s.s. Ceramic. These should arrive during the early weeks of the Empire Exhibition, and command remunerative prices. The earlier canning varieties have now been processed, and a commencement made upon Kieffers and later kinds.

Stone Fruits.—With the exception of the late Plums, all stone fruits have now been harvested. The dehydrators have been the means of processing large quantities of Apricots, which otherwise would have been difficult to dispose of. A limited quantity of Prunes have also been treated, the quality of both products being generally of a high standard.

Overseas Shipments.—The reports that are just coming to hand in connection with the arrivals and sales of the first consignments are rather disappointing. Bitter pit is said to be prevalent, and a certain amount of black spot in immature fruit amongst the Demosthenes and Esperance Bay cargoes. Tasmania did not supply any fruit for either of these vessels, so the critics in other States that

seem to be of the opinion that we are responsible for all the inferior fruit that is forwarded, and have vaunted themselves so much lately, will perhaps remember the adage re glass houses and stone throwing.

Exeter Show.—The Show was held this season on the 29th March, which unfortunately proved one of the wettest days experienced.

In spite of the elements a fair gathering attended, and competition was keen in the various sections.

The State Fruit Expert (Mr. P. H. Thomas) judged the exhibits, and stated that although they were not so numerous as in previous years, the quality and standard were just as satisfactory. In the packing section, some very good competition was evident, particularly on the "Three Cases of Jonathans" and the four cases "Championship of Tamar Valley." Mr. F. Hodson, of Sidmouth, was again successful in the former, and incidentally obtained the award for the best case of Apples in the Show. Mr. J. Bulman, of Legana, was awarded the championship ribbon, scoring with some neatly packed cases of the chief export varieties.

The plate fruit sections were keenly contested. The Association's silver cup and blue ribbon being again won by P. R. Beauchamp, of Rosevears. This has to be won three times before it can become the property of the exhibitor. Other names prominent among the prize list were N. D. Wivell, Sidmouth; L. M. Saul, Hillwood; J. Fulton, Legana; C. E. Griffiths, Glengarry; and O. E. Hall, Legana.

A special feature of this Show was the exhibit of packed fruit from scholars, that have been attending the Department of Agriculture packing classes. Although the competitors have received only a few lessons, the display was very creditable. This was the largest competitive class in this section, and the educational work must ultimately result in great good to the industry.

STATE FRUIT ADVISORY BOARD.

A meeting of the State Fruit Advisory Board was held at Hobart on the 11th. April, 1924.

Present:—Messrs. D. C. H. Calvert, J. P. Piggott, V. Shoobridge, Frank Walker, T. J. Eddington, E. H. Ross (representing H. Jones & Co.), V. Skinner, and the Secretary (P. H. Thomas).

Mr. F. W. Wakefield was present by invitation.

Apologies were received from Messrs. A. Davies and Neil Campbell M. H. A.

In the absence of the chairman, Mr. D. C. H. Calvert was voted to the chair.

F. Wakefield Investigation.

The Secretary read a report from the Agent General (Mr. A. H. Ashbolt) detailing the operations of Mr. F. W. Wakefield in his investigations into the occurrence of "Brownheart" in Apple cargoes. Mr. Wakefield then addressed the meeting, and gave an exhaustive and interesting account of his operations detailing his discoveries and recommendations.

A vote of appreciation and thanks was accorded to Mr. Wakefield for his untiring energy and able conduct of the investigation that he made for the future benefit of the industry.

It was decided "That the Secretary be instructed to refund to Mr. Wakefield the amount of £20 which he paid into the fund for the purchase of instruments.

A vote of appreciation was carried to the Agent General, the Commonwealth and Dominion Line, and to all persons who were instrumental toward the success of the investigation.

It was agreed that an amount of £150 be made available from the defence fund for the purpose of the Wakefield Investigation.

Also that an amount up to £150 be paid to Mr. F. Wakefield to reimburse him for the expense incurred in his investigation.

Co-ordination In Future Investigation.

It was decided that the Commonwealth Government be requested through the Australian Fruit Council to co-ordinate with the Cambridge Research Committee in future investigations into the carriage of fruit to overseas markets.

Finance of the Board.

A discussion took place over the future operations of the Board, the Secretary notifying the meeting that there were not sufficient funds to carry on. A deputation waited on the Minister of Agriculture who promised that the Board's operations should not be restricted for the want of funds.

Rough Handling Of Fruit.

Mr. Calvert moved, Mr. Pearsall seconded:—

"That this Board urges the Honourable the Minister of Agriculture to instruct Inspectors under the Regulation of the "Apples and Pears Act" that controls this matter, to take action to prevent the Rough Handling of Fruit, which is still of frequent occurrence."

Resolutions were also carried supporting the proposal for more barrowmen in Sydney and the sale of fruit by numbers.

Tamar Valley Fruit Show.

The Annual Show of the Tamar Farmers' and Fruitgrowers' Association was held at Exeter last month, being formally opened by the Hon. E. Freeland, M.L.C. Amongst others present were Messrs. Neil Campbell, M. J. O'Keefe, and A. W. Bendall, M.s.H.A.

This function is regarded as one of the most important displays of fruit in Tasmania. The quality of the fruit was good, but the exhibits were much less numerous than last year, which was due largely to the fact that the season has been unfavorable.

The display of vegetables was equal to that of former years, and the collections of Potatoes, Pumpkins, Carrots, etc., were very creditable to the growers.

The packing, alignment and wrapping were favorably commented on by the judge in the fruit section (Mr. P. H. Thomas).

A special feature was the exhibit of case Apples packed by the scholars from the State schools in the district, who have been attending the Department of Agriculture packing classes. The educational work done in this regard must ultimately result in great good to the industry. These classes are now being held in practically all the fruit districts of the State, and some 20 centres are being visited regularly by the departmental instructors.

An exhibit of special merit was that which scored the first prize in the six varieties of export Apples. The winner was P. R. Beauchamp, who exhibited some splendid plates of fruit. The championship cup and ribbon goes to the winner in this class, and it is the second occasion upon which Mr. Beauchamp has achieved the distinction of securing this particular award. Other exhibits of note were the best four plates of Apples, which was won by Mr. C. E. Griffiths, the best three varieties of dessert Apples, which went to Mr. N. D. Wivell, and the best six plates of Pears, in which Mr. Jas. Bulman was successful.

Much credit is due to the hard working Secretary, Mr. H. Robinson, and the Show Committee.

Shipments to Brisbane.

Direct from Huon Ports.

The Brisbane Committee of Agents, on the question of direct shipments from Tasmania, report that they have been informed that shipments will go to Huon and Hobart direct to that State during the coming season, at the reduced rate of 2/3 per case freight.

Efforts have been made for some time by the Brisbane Committee of Agents and others interested in the trade to have the freights reduced to 2/-, and it is probable that before

long the shipping companies concerned will make the desired reduction.

"Even at the proposed charge of 2/3 per case," states the Brisbane Committee, "we are still handicapped as compared with fruit sent via Sydney, the charges by that route being Hobart-Sydney, 11d.; Sydney-Brisbane, 1/2 less 10 p.c., making a total freight of about 1/11½, as compared with 2/3 by the direct boats. It appears to be a reasonable assumption that freight should be at least as low as, if not lower than, by transhipment methods."

Satisfactory arrangements have been made in regard to regular sailing dates of the two boats, in order to avoid clashing of shipments that have occurred in the past.

DEHYDRATION IN TASMANIA.

Success with Apricots at Bridgewater.

The Tasmanian Dehydration Co. Pty. Ltd. at Bridgewater, has had a successful season. Their plant erected in 1923 for treating three tons of fruit per week, was increased to handle nine tons per week in the season just concluded.

The dehydrated fruit (principally Apricots) is of such good quality as to command a ready sale. Over £6,000 has been expended in erecting and equipping the factory.

This enterprise which has recently been favorably commented upon by the "Hobart Mercury," employs from sixty to sixty-five hands (male and female), all residents of the township and surrounding districts, and returns the growers and wage-earners about £1,000 a week. Work is continuous, there being three eight-hour shifts. Apricots occupy most attention, and the season extends from January to the beginning of March. When Prunes commence to arrive, the treatment of this crop occupies the factory until April, when the April season begins.

In the process of dehydration, the air is heated to a temperature of 165 degrees, and it is drawn at the rate of 10,000 cubic feet a minute across the trays packed with sulphured fruit. After being treated for twelve hours in the dehydrator, the water contents has been removed, and the fruit goes into sweat boxes and to the grading machine. Subsequently, the dehydrated fruit is packed in 28 lb. boxes by machine presses; also into canisters.

The plant was erected by Mr. D. J. Latham, of Queen-street, Melbourne. The directors of the company are Capt. J. A. Newman, Managing Director, Col. Bisdee, Messrs. A. E. Mansell, T. Piesse and W. Wood. The shares in the company are held by local growers. Owing to the success of these operations further extension may be necessary.

AUSTRALIAN CONFERENCE OF FRUITGROWERS AND POMOLOGICAL COMMITTEE.

As we go to press the 17th annual session of the Australian Conference of Fruitgrowers is sitting in Hobart, Tas. The Conference will conclude on May 3rd. The Hon. L. M. Shoobridge, M.L.C., is President. The agenda paper contains a number of matters of importance to the fruit-growing industry. A full report of the deliberations, together with that of the Pomological Committee which is sitting at the same time, will be published in our next edition.

ORCHARD PESTS AND THEIR REMEDIES.

Codlin Moth affects Apple and Pear, Quinces, etc.—Use Arsenate of Lead. Directions for mixing are sent with all the leading brands. Apply the first spray when about three-fourths of the flower petals have fallen, using the highest pressure possible, driving the mixture well into the centre of the blooms. Second spray about a fortnight after the first, and the third and final application about January.

Curculio Beetle affects Almond, Apricot, Apple, Pear, Plum, Peach, Oranges, etc. Use Arsenate of Lead. Spray, using double-strength when the beetles first appear.

Peach Aphis affects Peach, Nectarine, Apricot, Almond, Jap. Plum. In winter, use **Red Oil**, Lime Sulphur, Tobacco Wash, Nicotax Black Leaf 40. Surest method is to apply Red Oil in June and use Tobacco Extract when the pest appears in summer.

Woolly Aphis affects Apples. Use **Red Oil** in winter. Spray in June, using highest pressure possible, and give a **second application** in August. Summer spray with Tobacco Extract.

Tobacco Extract can be applied during the summer, and for this reason can be recommended, as the aphides are then far more susceptible to the spray. These remarks are based on my own practical experience, after exhaustive and costly experimenting (writes Mr. H. N. Wicks, of Balhannah, S.A.). Oil sprays cannot be applied in summer of sufficient strength to be effective, total extinction possible.

Pear and Cherry Slug affects Pear, Cherry, Jap. Plum, Plum, Quince. Use **Arsenate of Lead.** Spray with strong mixture when pest first makes its appearance.

The following remedies, which are mentioned in the foregoing, usually have instructions for mixing sent with them, and it is unnecessary to repeat the directions here:—**Red Oil, Lime Sulphur, Arsenate of Lead.**

I have no faith in that proverb about all things coming to him who waits. My experience proves that the only things that come to the man who waits are the cast-off things of somebody else.—John D. Rockefeller, Jr.

Stocks for Apple Trees

Northern Spy Best so far Known, but Further Investigation is desired.

The "Fruit World" recently published a series of articles from established and capable growers, unanimously voicing the opinion, based on actual experience, that it would be a retrograde step to go back to the seedling stock in the face of its repeated failure in the past.

We are publishing in this issue a photograph of some specimens of seedling stocks. The roots are infested with Woolly Aphis, and a well-known Tasmanian nurseryman, who supplied the specimens referred to, said he "would not grow such stuff on his premises."

Nevertheless, there is an insistent demand for further investigation into this matter. Whilst it is generally admitted that the Northern Spy is the best stock so far known generally for Apple trees, it is also well known that certain varieties do not come to their best on that stock.

There is a wide field for investigation into the question of stocks for fruit trees generally—not simply apples in particular—and nurserymen in the several States would do well to stand between any movement tending to bring about the desired investigation into this important subject—and not simply to "stand behind" such a movement, but to come forward and to take a lead in the matter.

NURSERY INVESTIGATIONS IN U.S.A.

Propagation of Stocks for Apple Trees.

Seedling Stocks are Variable.

In view of the discussions in Australia regarding the relative merits of the seedling and blight-proof stocks for Apple trees, it is of interest to quote from the following bulletin issued by the Bureau of Plant Industry, Department of Agriculture, U.S.A., wherein the variability of the seedling stock is mentioned, and keen interest is displayed in vegetative propagation because of "its promise for the fruit industry."

The U.S.A. bulletin continues:—

Owing to the fact that this country has been so dependent upon foreign sources for many of its fruit stocks, an attempt has been made to find out whether American sources of seed and American-grown stocks may not be produced which will have all the merits of the imported stocks. Furthermore, the fact has been impressing itself more and more that the

wide seedling variation

in the stocks that were in general use must have a very much greater influence on the merits of the trees pro-

pagated on them than has been supposed. The desirability of vegetative propagation of the better stocks is therefore assuming much importance.

Apple-stock Experiments.

In comparing the development of American-grown and foreign-grown Apple seedlings, representative lots were secured from practically all the sources that were available. For example, sample lots of imported French Crabs were obtained; also French Crab seedlings grown in Kan-

for commercial purposes, but there is a very wide variation in the character of the seedlings of the different varieties. The development of this fact may have an important bearing on sources of seed in this country for use in the growing of stocks.

Possibly, however, the most important development and the one that promises to have the most far-reaching effect on the whole stock situation is the comparative readiness with

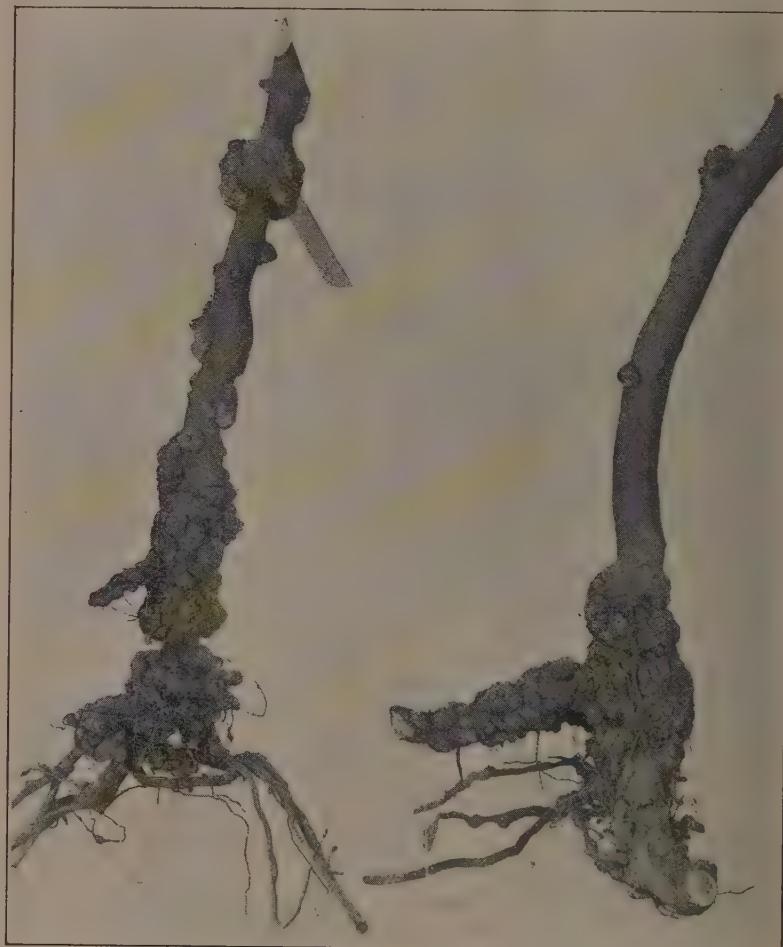


Photo of seedling stocks of *Malus baccata* severely attacked by Woolly Aphis

sas and in Iowa; seedlings from Minnesota-grown seed raised in Minnesota; seedlings from Minnesota-grown seed raised in Kansas; and corresponding lots from Vermont, Pennsylvania, and various other sources. These seedlings are all being grown at the Bell station, and their development carefully observed.

Seedlings of some of our commercial varieties of Apples produced an apparently satisfactory type of stock

which many varieties can be propagated from root cuttings.

Apple-root cuttings, as a rule, send up several sprouts, and by mounding up the sprouts as they grow an abundance of root develops from each sprout. After these have rooted they can be separated from the original root cutting, lined out in the nursery row, and grown independently.

These shoots develop rapidly, and there appears to be no reason why

they can not be handled just as seedling stocks are handled so far as their use in propagating Apples is concerned. In this way the original root cuttings can be continued year after year as a source of new sprouts. This method of propagation also has promise as a means of propagating Apple varieties directly on their own roots.

This method of vegetative propagation is receiving possibly more attention than any other one feature of the stock investigations because of its promise for the industry.

PULM STOCKS.

Myrobalan Stock Approved.

The effect on growth and yield of different root Plum stocks forms the subject of a bulletin issued by the New York Experimental Station at Geneva from the pen of Dr. U. P. Hendrick, the station horticulturist.

Experiments were started in 1912 with six different stocks, on which were worked 15 different varieties of Plums commonly grown in New Zealand. The resultant effect on growth for 10 seasons and on yield for six seasons has been carefully noted, with the result that the use of Myrobalan for Plums has been considered as fully justified by results secured at the station.

"Cultivated fruit trees," the bulletin proceeds, "are a union of stock and scion, and these act on each other for better and for worse. The fruit-growers and nurserymen have much at stake in the stocks upon which the trees are grown. As regards vigour and productiveness of the resulting tree, Myrobalan is best for such Plums as Brayshaw, Grand Duke, Italian Prune, Lombard, Reine Claude, Shropshire, Damson and Drop d'Or. Botan and Burbank grew and fruited equally well on Peach and Myrobalan. Wild Goose and the various native American Plums did well on the Myrobalan, but succeeded equally well on the Mariana.

The bulletin is a valuable contribution to the stock question.

CHARLES DICKENS

—the great master writer—said:—"Trust in nothing but Providence and your own efforts—never separate the two"—at the same time it should be wise, if you suffer from Indigestion or Liver trouble, to take with each meal a small dose of A.M.S.—say 30 drops for a start—then you will not only be successful in your life, but bright and happy and always fit for a game with the kids. A.M.S. is sold by all chemists and country store-keepers at 3/-. Manufactured by T. A. Dickson, Chemist, Geelong, Vic.

New South Wales

MURRUMBIDGEE IRRIGATION AREAS

DISTRICT NEWS AND NOTES

MURRUMBIDGEE IRRIGATION AREAS.

Water Commission's Report.

Setback to Co-operation.

The annual report of the Water Conservation and Irrigation Commissioners for the year ended 30th June last, contains a very interesting review of the operations of the various co-operative organisations on the Murrumbidgee Irrigation Area.

Co-operation, the Commissioners state, will receive a serious setback by the failure of the M.I.A. Co-operative Co. Ltd. to assist the growers in the handling of their produce on the Yanco section. Lack of confidence in the management, which meant a turnover far too small for the capital invested was the primary cause of the Company going to the wall, and the difficulty might have been surmounted had the growers given the concern their utmost support. They experienced further ill-fortune when a heavy cyclone seriously damaged their building. The question of the Company providing larger outlets for the produce is being considered by the Government.

The butter and bacon factories and abattoirs are in a much better position. The butter factory manufactured 946,470 lb. during the year, the total amount paid to settlers being £74,852—a record. The maximum number of cows milked was 3,700, an increase of about 800 on the previous year. The registered dairies on the area number 167. The bacon factory paid £18,000 for pigs during the year. This, while an improvement on the previous two seasons, is little more than a third of the £51,636 paid in 1918-19.

Under all headings of production, including fodder, poultry, tobacco, as well as dairying and horticultural produce, the value for the year is estimated at £575,000. The crops watered during the year totalled 60,816 acres, of which 11,290 were oats and 16,635 acres were grass and stubble. Cotton only represented five acres.

GRIFFITH.

The Griffith Producers' Co-operative Co. Ltd., Griffith, N.S.W., in the April edition of their publication, "The Co-Optimist," report as follows:—

The outstanding feature of the month has been the fruit trains going

to the North Coast of N.S.W. Four trains in all went away, having aboard a total of 125 tons of fruit, of which 25 tons were small canning Peaches, 60 tons Doradillos and 40 tons Cornichons. The reception accorded these trains was very marked, and the first train of 42 tons sold out before completing its journey. The second train, however, struck bad weather both at this end during picking and packing, and at the other end so that a fair proportion, particularly the Peaches, proved unsaleable on arrival although the demand was as great as ever. These first two trains sold between Dungog and South Grafton. The third train, consisting mainly of Grapes, with a few Peaches, sold between Grafton and Murwillumbah. The reception accorded this was not nearly so enthusiastic as was the case further south, and it was with some little difficulty that all the fruit was disposed of.

The fourth truck, which is the final one for the season, again sold between Dungog and Grafton, and was finally emptied some distance before reaching the end of the journey, leaving orders for over 1,000 cases unexecuted.

It is evident from these experiences that we have a lot to find out yet about the fruit train distribution to ensure regular success. As a result of our experiences this month it has been determined that an excellent market exists on the North Coast for our fruits for direct sale and, steps are being taken to foster it to the utmost. Messrs. Benton and Cox will be back very shortly when a meeting will be called of growers so that the whole matter can be gone into.

Cannery Matters.—The 1923 season may be said to be finally closed, although there are still a few Figs and Quinces drifting in. The quantity of fruit handled this year was approximately 650 tons, some 50 tons greater than last year.

Owing to the improved arrangements made between the cannery and the Griffith growers there was an absence of difficulties over weights and deductions which no doubt has already been appreciated by the growers. The major cost of handling the Griffith fruit also has been accepted by the Leeton cannery, which in turn will have its effect upon growers' account sales. It is anticipated that final payment for all fruits will be made within a few weeks and at least

85 per cent. of the value of the fruit will be paid out this month if anticipated cheques from the W.C. and I.C. come to hand.

Ohanez Pool.—It is not too late to mention that Ohanez Grapes which are not already entered into the pool and for which no cork dust is available, can be entered into the new pool which should be done without delay. The market to be anticipated is not a phenomenal one. To participate in the high prices for overseas shipments cork packing is necessary. This year we provided 7 tons of cork, capable of packing 3,500 cases, and this proved to be considerably below the actual requirements. Next year it will probably be necessary to order 20 or 30 tons to provide for packing more largely for overseas.

We have sent away 600 cases to Java, 250 to England, 400 to Canada and 400 to New Zealand, whilst the Queensland sales are beginning to assume fair proportions.

It is to be hoped that all growers will join up with the Ohanez Pool as this Grape is essentially one for which the Sydney market must be regulated to avoid gluts and consequent low prices. We expect to do a large business in direct distribution to the retailers.

Dried Fruits.—This has been coming in very slowly and apparently growers are not anxious to have advances made available. The limited quantity so far to hand hardly justifies an application for an advance, and it is hoped that those with Prunes, Almonds, and Peaches will let us at least know what they are sending in without delay.

The recent rains have had a bad effect upon some Prunes which are not yet sufficiently dry for bagging. Every care should be taken to take each opportunity of exposing these Prunes to the air and sun in order to get rid of the surplus moisture. Moist Prunes cannot be stored efficiently by us and will have to bear an extra charge for cold storage from the inception. All Prunes should be bone dry when brought in.

Gypsum.—The supply of this still keeps well behind the demand. We have some hundreds of tons ordered from the pits and as the only way to get it is to order some time ahead; growers who will be wanting gypsum during the winter for back loading should place their orders first which will then be executed in direct rotation. Those who leave their orders until they need Gypsum will no doubt find that it is impossible to obtain supplies. The price is £2/9/6 per ton.

Citrus Fruits.—Estimate forms will be sent out very shortly now. These will be preliminary only. Last year we asked for estimates and found that with the Navels the growers had underestimated their crops by about 25 per cent., whilst with the Valencias they had overestimated by 50 per

cent. This rough guess work caused the shed considerable inconvenience, and we have been carrying dead capital in the form of unwanted boxes for several months. There is no difficulty in arriving at a fairly close estimate of the crop if a little time is taken over the matter. A good method is to actually count the Oranges on one side of the tree, or all round the tree. Do this over, say, 10 per cent., or even only 5 per cent. of the total number of trees. Assume 100 Oranges to the bushel. Many growers simply ascertain the figures for the previous year and then guess whether the crop is over or under. The increased size of the tree makes it difficult to get a reasonable idea of what the comparative crop is, and counting as suggested is a more satisfactory method.

Lemons.—Due to the improved methods adopted last year in storing we were successful in holding the large bulk of the fruit entrusted to us and sold same at very favorable prices. It is intended to endeavour to carry out the same method this year. The fruit will be picked as soon as it is 2½ in., whilst green, placed in boxes and brought in immediately after picking. It will then be sterilised and stored until such time as a favorable market justifies sales. An outlet for all ripe under or oversize has been secured for this season.

Our bulk consignment system and distribution by one carter alone in Sydney which enables closer supervision at Darling Harbour and prevention of lost or damaged cases, is working out satisfactorily. Some agents are writing to Griffith growers complaining of late arrivals of fruit which are always blamed upon the inefficiency of the cartage system. Usually investigation shows that there is no foundation for the complaint which arises out of late railway arrivals, mistakes in shunting, etc. Incidentally, agents omitted to advise delays before the system was introduced, but growers must not assume that no delays occurred. On the contrary, the old system meant that the first agent's carter at the Griffith truck got his fruit first and in doing so competitors' fruit was tumbled out of the way and occasionally damaged. The last carters in were always delayed in delivery, but growers did not hear about that.

With the new system, our carter fills his lorry at once as the cases are stacked and gets away with a full load in a few minutes to the markets, another lorry draws up and repeats until the truck is cleared.

Further, as soon as the fruit leaves Griffith an urgent wire goes to our carters advising them of the details of the consignment thus enabling a sufficient number of lorries to be arranged for overnight for next morning's loading. With the rapid transit which the company has been able to secure for Griffith fruit, the train

arrives before the mail, so without this advice agents are unaware that fruit is on the train for them and delays occur. No information as to this reaches the grower from the agent.

Grape Crop.

A reader at Griffith, N.S.W., writes to say that this summer has been exceptionally peculiar. There has been altogether too much rain. Owing to the cool weather and the rain, growers found that the Grapes did not ripen up well, as they were lacking in sugar. Shiraz was found difficult to test at 14 deg. Beaume; Gordo Blanco in the middle of April tested only 14 deg., and Doradillo under 13 deg. Cornichon yielded large berries, but these unfortunately, were lacking in color, remaining of a whitish pink color, and being soft and unsaleable.

Gosford, a Progressive District.

In the course of an interesting letter to the "Fruit World," Mr. W. E. Kirkness, a well-known citrus grower of Gosford, N.S.W., writes under date, March 18th:—

I have had occasion to visit various parts of this district during the past few weeks, and have given special attention to the state of the orchards, and the progress of settlement, there is always a feeling of inspiration and a larger faith in the British stock when one sees new areas being cleared and planted and brought into a condition to support families of sturdy Australians (or improved Britishers).

Great gaps have been cut into virgin forest, and settled on those gaps is a man, wife and children; young trees are just planted, and vegetables covering every yard of cultivation, truly a picture of hope of the future, and faith in themselves. I have also seen orchards of four and five years equal to anything in the Commonwealth. These people take their failures as lessons of what not to do, and having seen these places often, I rejoice with them that slipshod procedure has given place to system, and men are becoming better in their daily life for the discipline of doing the common things of life decently and in order.

The difference in cultivation and method in this district during the past 10 years is as surprising as it is profitable. There is also a decided change in the class of fruit being planted during the past five years.

Thousands of Apple trees have been taken out and replaced with Valencia Oranges on the higher land, and Navels on the lower; one reason for that being that Apples have not on the coast the keeping qualities of those grown on the drier inland districts.

Gosford district is essentially a citrus-producing area, and growers are

specialising in certain varieties. This will be of great advantage, as the system of packing companies extend.

Evidence of this is shown by the figures supplied by the packing sheds for the past season, 96,000 bushel cases being despatched to various centres. As several of the sheds only got a start in July, the pack shows wonderful progress; it also shows that the spirit of systematisation has got a grip on the growers.

I travelled over many miles of country and saw a gratifying change from a few years ago; there was a time in my knowledge of Gosford district when the daily steamers plying from Sydney (before the day of the railway) brought most of the fruit required for consumption in this district. Compared with the position to-day that one railway station alone despatched 4,900 tons of fruit and vegetables.

This difference was not secured by prayer and fasting, but by solid work, a blow at a time, and the men and women behind the blow were built of the stuff that makes a nation great. Throughout the district citrus crops are light, but a little better than last year, the crops are cleaner and freer from scale than the previous year, the kinds being Valencia first, Joppa, Common and Siletta in order.

Gosford District Show.

The Gosford 35th Annual Show was held recently and proved to be a great success, notwithstanding the fact that the district had suffered severely for want of rain for many months; in fact, no subsoil rain had fallen for three years, which meant that a great deal of surface cultivation had to be performed to keep the crops from failing completely. The heavy rains just prior to the Show had spoilt much of the ripe fruit.

A few years ago, with one or two notable exceptions, fruit was sent to market, put in a box in a very careless way. To-day the bulk of the growers are organised into Co-operative Packing Companies, who send their fruit to market graded and packed with a label stating the quality and number of fruit in the package, and behind that label stands the Company's reputation. There are five such Companies fully established in the district, and between them they have sent away during the past citrus season 96,000 bushels of fruit. The producers of the district have done, and will do very much, to eliminate the excessive charges that stand between what the producer gets and what the consumer pays. On behalf of the district's producers, the Minister of Agriculture was asked for all the assistance the Department could give to lift the fruit industry.

Captain Chaffey, Minister for Agriculture (who officially opened the Show) in the course of his remarks

stated that the Gosford district was showing wonderful progress.

The area under fruit cultivation is 4,327 acres. The judge, Mr. F. Chilton, was particularly pleased with the quality of the Lemons and Valencia Oranges. Some good district early Apples were shown, as well as Mobbs' Royal and Granny Smiths. Plums, Peaches, Passion-fruit, Tomatoes and Melons were of good quality.

Crushed fruits, consisting of Oranges and Lemons, manufactured in this manner for the first time in New South Wales, contained all the true flavors and freshness of the pure fruit.

Central Tableland.

One of our readers from the Orange district reports that fruit growing has made great strides of recent years on the central tableland of New South Wales. Especially has this been the case in the neighbourhood of the Canobolas (an extinct volcano) where the red and chocolate loams on the slopes seemed to best suit the production of English fruits. There, at an altitude of several thousand feet, the comparatively cool summers enable the fruit to attain its highest perfection. Apples, Pears and Plums all do well, but the Peach is subject to the curl-leaf disease, and few growers plant this particular fruit nowadays.

The Cherry

is the principal mainstay of the growers, it being far less susceptible to disease than other fruits. The crop is generally reliable and good, and it bears just at the time when the public are anxious to get early summer fruit. Except for the frosts, it will do almost as well on the lower-lying flats of whitish soil as on the best chocolate loam.

The Cherry is the most favoured and profitable fruit cultivated in the Orange district. The Marguerite (black) and the Florence (white) are the most popular, although the Early Lyons is also much favored, the latter being a large heavy-bearing variety of mid season Cherry. Few people now plant the small, light-bearing early varieties, as the latter are the most remunerative. These, on the Mazzard stock, attain a great size, and usually yield heavy crops of fine fruit which are in much demand. A grower one season picked forty boxes of fruit from one tree of the Florence variety.

Where the trees are young, enterprising growers plant peas around them, thereby adding substantially to their income.

Curlwaa Irrigation Area.

A feature of the period has been the phenomenally cool summer season. The highest temperature recorded was 103 deg., and that only occurred on four occasions. While conditions of living were thus made very

pleasant, the drying and processing of fruit were much delayed. Practically all this work is generally complete by the end of March, but, so far, nearly the whole of the Raisin Grapes are still on the vines. It will be some time yet before they are all picked and on the racks, and as the nights have been cool, even to dews and light frosts, it is difficult to estimate when the dried product will reach the packing sheds. As a consequence many enquiries are being made as to the use and efficiency of dehydrating plants.

The difficulties of the position have been accentuated by the heavy crops which are being harvested. No doubt the mild summer and some favorable rains have conduced largely to this result, as there has been a complete absence of any burning of either foliage or fruit. Further, the fruit is of excellent quality, and every endeavour is being made to secure a high grade under rigid classification.

It is yet early to furnish particulars of individual yields, but it is known that over 4 tons of Sultanas per acre have been harvested, a quantity which is far in excess of any previous results.

The growth of trees and vines on newly-planted blocks is more than ordinarily satisfactory, and a number of these will come into bearing next season. Some experiments have been made with cotton interplanted amongst fruit trees. A good strike was obtained, followed by rapid growth, but it is yet too early to forecast returns, though in view of the continued mild, even cold weather, no great success is anticipated.

WALNUT PRODUCTION IN U.S.A.

The California Walnut Growers' Association has just completed a detailed tabulation of the deliveries of Walnuts at various shipping stations in the different counties of the United States producing Walnuts, which shows a total output for the State in 1923 of 24,405.01 tons. Of this southern California is credited with 22,424.92 tons and north of Tehachapi with 1,980.09 tons. Orange County had the largest total, 7,447.64 tons, followed closely by Los Angeles County, with 6,311.13 tons, and Ventura County, with 5,556.57 tons. Santa Barbara was next, with 2,237.81 tons, all other counties being less than one thousand tons. Santa Clara County led in the north of Tehachapi counties, with 773.92 tons, followed by Contra Costa County, with 580.40 tons.

This indicates the tonnage of Walnuts turned out in California for 1923 as probably 24,500 tons, in round figures and to take account of scattering odds and ends.



Dried Fruit Department



Souvenir Box of Dried Fruits.

The Australian Dried Fruits Association is preparing a unique plan to advertise and distribute its dried fruits by means of Souvenir Boxes.

The Idea of Souvenir Box is to advertise Australia and Australian Dried Fruits in the British Isles. Window displays are being arranged in London, and the box will be on sale at the British Empire Exhibition.

The resources of Australia in this respect will thus be brought before the British public.

As a Gift the Souvenir Box is eminently suitable.

There are thousands of Australians who are desirous of sending a gift of something typically Australian, and worthy of Australia to relatives and friends in the British Isles.

"Do not forget English and Scottish hospitality during the War"

Its Value.

The box comprises six varieties of Dried Fruits weighing four to four and a half lbs., being the equivalent of 19 lbs. of fresh fruit or Grapes.

It is only by sending the fruit in bulk to England and packing and delivering from there that the box can be sold at 5/-.

Soldiers' Product.

The quantity of Dried Fruits produced in Australia has been considerably augmented during the last few years by returned soldiers having been repatriated into the industry. This year the Australian Dried Fruits Association expects to export something like 20,000 tons of dried fruit. The finding of markets overseas for this fruit is imperative. The appeal therefore to the British public, if every Australian soldier with friends in Great Britain sent one box, should be very strong.

Dried fruits will be made known to many British homes and attention drawn to our exhibits at the Australian Pavilion at the British Empire Exhibition.

The Contents.

In addition to the fruit, this attractive box will contain:—

- (a) A book of recipes for dried fruits.
- (b) A complimentary card giving name and address of sender.
- (c) A printed slip inviting the recipient to show the gift to as many friends as possible; also,

inviting them to ask their grocer for "Sun-rayed" Dried Fruits, and to attend the Australian display at the Empire Exhibition.

It is certain that this novel plan for distributing dried fruits will be keenly taken up, to the mutual advantage of all concerned.

Crop Report.

The dried fruit crop this year generally along the Murray Valley has

In the Nyah district a number of cases have been brought under notice where growers, in their endeavour to dry Gordos for clusters, have had the whole of their fruit so badly spoilt by adverse weather conditions as to force them to make application to the railways for tank trucks to send their fruit to the distilleries. In spite of these unfortunate conditions, it is estimated the crop this year will exceed last year's, which was 23,000 tons, by 2,000 or 3,000 tons.



Reproduction from actual photograph of Souvenir Box of Dried Fruit.

been abnormal, reports received from several growers show that as high as 4½ tons dried fruits per acre have been harvested. The most unfortunate drying conditions, however, have prevailed for many weeks, owing to the wet weather, and tons of fruit still remain unharvested owing to insufficient rack space to deal with the tremendous crops.

DEHYDRATION IN TASMANIA.

The Bellerive Factory.

Much public interest has been aroused by the attractive display of a variety of dehydrated products in the window of Messrs. Charles Davis and Co. Ltd. The produce was treated by

Mr. J. H. Morton's patent process recently installed at the Bellerive factory; Apricots and peeled Pears, Golden Drop Plums and several varieties of Prunes as well as smaller quantities of Blackberries, Parsnips, Carrots, Onions, shredded and sliced Potato are among the local products shown. An interesting feature of the display comprises soaked portions of different fruits and vegetables, showing how after being immersed in water they can be refreshed to practically their original state as nothing but the pure water is removed by the curing process. Photographs of the interior of the factory show the neat and sanitary arrangements where the fruit is prepared for treatment, and one of those "indestructible" fruit trays used in the display. Pineapples and Bananas dehydrated at the Queensland factory are shown to demonstrate possibilities of inter-change of products, "Golden Ray" dehydrated Apricots

"Bringing forth new fruits is the most profitable work in fruitgrowing," says Dr. Hedrick. "The most conspicuous landmarks in the progress of fruitgrowing for any period in the past have been new fruits. This is so now and will be so in time to come. Fruit breeding is still pioneer work for, despite the fact that fruitgrowing is an ancient art, most of our cultivated fruits are but little removed from the wild types. There is no perfect fruit, and every variety of every fruit is known by its faults. Nearly all varieties of fruit have originated by chance, but now plant breeders have worked out many of the laws and principles which govern their art and progress ought to be rapid.

"Fruitgrowers often dismiss new fruits with the statement that they do not pay. If fruitgrowers had done this a generation ago we should have almost none of the small fruits we now grow; and if one hundred years ago fruitgrowers had refused to try new fruits, we should have had almost none of the tree fruits found in modern orchards. Even though the purchase of a new fruit is a speculation, the fruitgrower should try his luck to see if the new varieties may not push forward fruitgrowing in one direction or another. The new sort may be earlier or later; higher in quality, or handsomer; harder or more productive; may keep or ship better; or in some other way it may better serve than the sorts whose places it is expected to fill."—"Californian Cultivator."

QUALITY DEHYDRATORS

J. H. MORTON, A.M.I.M.E.
Consulting Industrial Engineer
Bank of N.S.W., SYDNEY, and
369 POST OFFICE PLACE, MELBOURNE
Inventor-Designer
WORLD RENOWNED
"Morton Efficiency"
Dehydrator
(By Royal Letters Patent)
(Adopted after elaborate Official Tests
by H. M. Imperial Govt.)

Consultations and Reports on EVERY
DESCRIPTION of DRYING APPLIANCE.
Write NOW!

being now on their way to Queensland and Sydney.

The directors of the Bellerive Company have decided to recommend to the shareholders' general meeting that the factory be extended to double its present capacity in view of the satisfactory balance-sheet for the season revealing a surplus after paying for fruit and operating costs.

NEED FOR NEW FRUITS.

The only way in which fruitgrowers can make any permanent progress is through the development of new varieties of fruit which are superior to existing sorts according to Dr. U. P. Hedrick, Horticulturist at the New York State Experiment Station at Geneva. Dr. Hedrick, author of a number of fruit books and an authority on fruitgrowing, has himself originated several new varieties both of tree fruits and small fruits which have now taken their place as accepted commercial sorts due to their superiority over kinds already grown.

HIDDEN ENEMIES.

1. The worker who is careless of material because he doesn't have to pay for it.

2. The human bat who is careful not to do more than he is paid for, forgetting that as soon as he is bigger than his job, that he will find a bigger one to fill.

3. The disposition on the part of some people to make continual excuses under the mistaken impression that they are offering bona fide reasons for delay and non-performance.

4. The short-sighted person who continually sees what is behind, but has neither vision nor courage for what is ahead.

5. The fool idea that what "I" do must be recognised and heralded and made a fuss about—or it doesn't count.

6. The executive who thinks he can't make a mistake, and is too pig-headed to acknowledge it when he does.—American Exchange.

'Phone Central 8479

F. W. Vear

Fruit Importer
and Exporter

COMMISSION AGENT

49 WILLIAM ST., MELBOURNE, VIC.

Solicits consignments of APPLES,
ORANGES, BANANAS, PINES and
all other fruits.

Account sales with cheque daily.

HUMORIST ON APPLES.

"Apples are born on trees, spend a large part of their lives in barrels, and are buried in pies. Apples, unlike Melons, are eaten from the outside in, instead of from the inside out, but sometimes, when green, produce an inside hot sensation. The Apple is popularly believed to have caused the first fall of man, but since then the Banana has given it a hard race, with the Orange peel a good second. The three personages who have done the most to make the Apple famous are Adam, William Tell, and Applejack."

"Useful to Every Fruitgrower."

J. C. Ellis, "Devon," Merrigum (Vic.) writes:—"I have to acknowledge receipt of my Fruit World "Annual." I think it is a splendid work, and will be found most useful to every fruitgrower."

Western Australia

Manjimup.

The Ninth Annual Show was held on the 9th April, owing to the exceptionally dry season the exhibits were not up to the standard of other years.

The official opening was performed by Mr. J. H. Smith, M.L.A.

The silver cup donated by Mr. J. H. Smith, M.L.A., to the exhibitor gaining the greatest number of points in all classes except preserves, cooking, sewing, flowers and ring events was easily won by Mr. G. Fontanini. The cup donated by the Society for the greatest number of points in the fruit section was won by Mr. W. Mottram, with J. H. Little second. Mr. W. Mottram secured eight first and three seconds. J. A. Little five firsts, eight seconds. Others to secure prizes were:—A. Fontanini, G. Fontanini, Ralph and Sons, Burnside Farm, V. Towie, Geo. Giblett, A. Haynes, C. A. Shaw, W. Shaw, A. C. Reeves, T. H. Richards, Manjimup Trading Co. There was a fine display of vegetables, flowers, farm produce, etc. The ring events were appreciated by all present. The President (Mr. F. Coombs) and the committee are to be congratulated on their efforts in making the Show a success.

Queensland.

FRUIT MARKETING.

Committee of Direction Regulations.

Queensland has made a new experiment in regard to fruit marketing in constituting, under the "Fruit Marketing Organisation Act of 1923," the Committee of Direction of Fruit Marketing. The scheme originated in a special committee, largely composed of representatives of fruitgrowing organisations and prominent growers, which made investigations into the conditions governing the marketing of Queensland fruit.

The result of the investigation was the holding of a conference, attended by about 80 delegates, which endorsed the appointment of the proposed Committee of Direction, to have entire control of the marketing of fruit. The Committee is empowered to make a levy on all growers for the maintenance of the system, and so wide is its charter that it can direct that only under its authority shall fruit be tendered for sale, transported by railway or otherwise, and handled at water fronts, railway stations, sidings, fruit or vegetable markets, or exchange, wholesale depots, shops, stores, barrows, or otherwise or elsewhere in the State.

The Committee of Direction consists of representatives of the sectional committees of producers, of which the Banana, Pineapple, deciduous and citrus fruitgrowers each elect two representatives, and growers of "other fruits," one. The Council of Agriculture also appoints a representative, but the consuming public and traders are not represented. It has been stated by the Chairman (Mr. L. R. Macgregor) that it is the policy of the Committee of Direction to operate along democratic lines, utilising the existing trade channels as far as possible, and it has been laid down that the Committee will have regard to the wishes of the elected growers' representatives in the different sections of the industry.

The following are

some of the regulations

which have been issued regarding the constitution of the Committee of Direction, the constitution of sectional group committees, the constitution of local associations, rules governing proceedings and business, and general matters:—

The regulations set out that each sectional group committee during May, 1924, and in every subsequent year in the month of May, shall elect two members of the Committee of Direction, but that the sectional group committee for "other fruits" shall elect only one such member.

A sectional group committee may at any time remove from office any member so appointed by them, provided that the notice convening

the meeting at which any such removal is proposed shall set out particulars of such proposal: Provided further that no resolution for such removal shall be carried unless at a meeting attended by 75 per cent. of the members, and on the vote in favour of the motion of at least 75 per cent. of the members present at such meeting.

Any casual or other vacancy arising in the office of member of Committee of Direction appointed by a sectional group committee may be filled by the appointment by such sectional group committee of another member, who shall hold office for the balance of the term of his predecessor in office.

Elections

shall be conducted by a show of hands, but any three members may demand a ballot. The Committee of Direction may from amongst its members appoint the necessary committees or sub-committees, and confer such powers on them as is deemed desirable.

The Committee of Direction may retain experts, and remunerate them for advice or reports either by salary or by a fee. Members of the Committee of Direction shall be paid a fee of two guineas for every day each, necessarily occupied in travelling or sitting together, with first-class rail and coach fares, and also for out-of-pocket expenses, not exceeding 12/6 a day.

Local Representation.

Every sectional group committee shall consist of members elected in May, 1924, and thereafter in August in each year.

For the return of a member or members to represent any local association or group of local associations or subdivision of a local association, every member of a local association within the electorate so constituted, who grows for sale not less than an acre of fruit of the class with which the sectional group committee deals, shall have a vote in that class.

A person may be nominated as a candidate for a sectional group committee by a local association.

The Committee of Direction shall on or before February 28, 1924, and on May 15 in each succeeding year, fix a date for the election of the sectional group committee.

Each sectional group committee shall

act as an advisory committee to the Committee of Direction in its class, but executive authority shall vest in the Committee of Direction alone. Members of sectional group committees shall be reimbursed rail and coach fares incurred in attending meetings of the committee, and shall receive an allowance of 10/- per day for expenses.

Local Associations.

The Committee of Direction may recognise groups of seven or more fruit

growers growing fruit for sale in a district as a local association, but may decline to register any local association. Every district fruit grower who grows fruit for sale shall be eligible for membership.

A conference of fruit growers shall be held in Brisbane in July of each year subsequent to 1924 on a date to be fixed by the Committee of Direction. All members of local associations shall be entitled to attend, and each local association which has been appointed as an agent shall have one vote at such conference.

At the annual conference the Committee of Direction shall submit a report covering all the operations of the committee during the preceding year, and embodying a financial statement duly audited.

THE SUMMIT.

A Progressive Fruitgrowing District.

"Of the many wonderfully rich fruit areas of the Great Granite Belt, all more or less strikingly impressive in fertility and prospects, the district known as The Summit stands out prominently. Progress is apparent on every hand, and the variety, quality, size, and quantity of fruits and vegetables being produced is remarkable."

Mr. Thos. J. McMahon, F.R.G.S., writing in the Brisbane "Courier," of February 16, thus characterised The Summit, a district which lies 3,030 feet above sea level, at the highest point of the railway between Brisbane and the border. Situated a few miles from Stanthorpe, the township as yet consists of but a few houses, with church, post office, store, railway station, and a fine hall; but it is the centre of a progressive district, and is already becoming known as a tourist and health resort on account of its bracing climate, its fruit, and its picturesque scenery.

Twenty years ago

The Summit was practically unknown; it was merely empty forest lands, thought to be suitable for grazing purposes only, and occupied by but three or four selectors. The selectors have given place to-day to some hundreds of orchardists and their families, and the lands, which 20 years ago were bought for 5/- an acre now realise, cleared and cultivated, £50 per acre.

In the present season—one of the best in the records of the district—there is a lavish wealth of Apples, Pears, Plums, Peaches, Grapes, Nectarines, Figs, Quinces, Apricots, Cherries, Tomatoes, and numerous vegetables. Quite 50,000 boxes of fruit and vegetables already have been sent to Brisbane, North Queensland, and Southern markets, and there is yet abundance of fruit to

pick, pack, and despatch. To follow is

a wonderful crop of Grapes.

The Summit, with the rest of the great Granite Belt, can supply Grapes to all markets: when vineyards in other parts of the Commonwealth are exhausted. Recently, in one day's despatch, there were 11,000 cases of fruit and 400 of vegetables—a very creditable evidence of efforts and progress.

The local sawmill for making fruit boxes and vegetable crates has been working day and night during the season. Every morning a long train—the "fruit train," as it is called—pulls up at The Summit to hitch on four or more waggons packed from roof to floor with boxes of fruits.

First Prize at Stanthorpe.

One of The Summit's achievements was the winning of first prize for the best district exhibit at the recent Stanthorpe Show.

This was in keen competition with other Granite Belt districts, presenting, collectively, a fruit display which possibly could not be surpassed in all Australia, and proclaiming the great fruit producing possibilities of the Granite Belt country. The Summit exhibit was not only remarkable for arrangement—which was highly artistic—but in the amazing fullness, variety, and quality of the fruits, vegetables, cereals, beverages, wines, jams, preserves, needlework, and works of art.

One of the many progressive settlers at The Summit is

Mr. A. H. Paget.

who started ten years ago with only five acres of cleared land, and no experience of deciduous fruitgrowing. To-day he has 50 acres of orchard, and intends planting another 800 trees during the present year. Mr. Paget has found that it is wiser to confine his attention to a few standard varieties instead of trying to work a great number of different sorts. In the Plums he is now planting only Wilson and Santa Rosa for early sorts, and Grand Duke and President as late English varieties. Mr. Paget is keenly interested in his work, has a fine homestead, and was one of the leading prize-winners at the Stanthorpe Show.

FRUIT PACKING ORGANISATION.

Better Cases Desired.

Mr. G. I. Mowat, of Stanthorpe, writing in the Queensland press recently, congratulated the Government on retaining the services of Mr. W. Rowlands as Packing Instructor, and continued:

"Why not follow this up and make a determined effort to improve the packing cases? Any one having experience in the making of cases knows to his cost the sad lack of uniformity in the timber as supplied by the sawmills. Fruitgrowers should combine

and insist on getting properly cut timber of a uniform standard size, thickness, and quality, or they will never be able to turn out well-made cases. Uniformity in the cutting of the timbers can only be obtained

BUNCHY TOP OF BANANAS.

Outbreak in Queensland.

Subsequent to the notification of an outbreak of Bunchy Top in a mild form at Brookfield, Queensland, the Acting Premier (Mr. W. M. Gillies) stated that it was advisable for growers to keep a watch for suspicious-looking plants, and when seen, to cut these plants out at once and destroy them by fire. It would also be advisable to notify the Department of Agriculture.

To enable Banana growers to make effective observations, the following are indications of the presence of bunchy top. According to experts, the disease takes several forms, one of the commonest being that the leaves of the plant, instead of keeping their usual position, have an upright tendency, and appear like leaves on the top of a cauliflower stalk.

When these leaves are crushed, they are found to be brittle and crackle under the hand. In other cases, the plant will go so far as to attempt to produce a bunch, but it gets stuck in the throat of the plant, and in this stage greatly resembles what is known as "stuck-throat," a condition which frequently follows unfavourable weather conditions.

Further, the young leaf, when emerging, is distinctly funnel-shaped at the top. Dark lines also are met with in the venation (veins in the leaf) of the young leaves in cases where the disease is well established.

Mr. Gillies further stated that so far no satisfactory cure for bunchy top had been found. It was considered useless to proclaim a buffer area, as the disease had jumped 30 or 40 miles from the nearest known infected plantation, and some growers considered it was "air borne." Great care had been taken not to import plants into the Brookfield area, and the outbreak was a mystery to the settlers. Every precaution is being taken to stamp out the disease.

In a recent report from the Department of Agriculture in Fiji, (made available by Mr. Geo. Valder, Under Secretary for Agriculture, New South Wales,) it is noted that no variety of bananas in that colony is quite immune from bunchy top and other diseases. Several shipping varieties are, however, affected in the following order:—Vimama, Cavendish, Gros Michel, and Pector. Produce reports state that the quality of the Vimama variety is good, but can only be carried packed in cases, as the bunches are heavy, too loosely built, and straggly. This variety is subject to all diseases, but in a much lesser degree than Cavendish. One disadvantage of this variety is that it is very easily blown down owing to its height and weight of bunch.

T. STOTT & SONS Fruit Merchants

Established 1882

A Trial Consignment solicited from Growers in all States.

Prompt Settlement.

11 WESTERN MARKET, Melbourne

TASMANIA

We are the Leading Australian Firm of FRESH FRUIT EXPORTERS, JAM MANUFACTURERS (XL Brand), FRUIT CANNERS, HOP FACTORS (owning the largest cool stores for this purpose in the Commonwealth).

Supplies of Corrugated Straw-board, Genuine Sulphite Paper, Nails and best Packing Materials available at all times.

Sole Distributing Agents for the Southern Tasmanian Associated Manufacturers of Evaporated (dried) Apples.

Agents for—
Federal Steam Navigation Co. Ltd.,
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Osaka Shosen Kaisha, London
Assurance Corporation.

Correspondence Invited.

H. JONES & CO. LTD., HOBART

Fruit Shipments LONDON

Liverpool and the Continent

W. D. PEACOCK & CO.

24 Martin Lane, Cannon St.
LONDON, E.C. 4
AND HOBART, TASMANIA
Solicit Consignments

The High Standing and Long Experience of this Firm is a Guarantee that the Best Interests of Consignors will be conserved.

through the organisation as already exists, combined with the efforts of a leader, such as Mr. Rowlands, to bring about this necessary improvement."

Fruitgrowers and the alleged Sugar Burden

A letter is to hand from Mr. G. H. Pritchard, Secretary of the Australian Sugar Producers Association, dated 12th. Feb., which owing to pressure on space has not been published sooner. Omitting personal remarks the letter is as follows:—

The position taken up by Mr. Tate of the Stanmore Preserving Co., (in the article published in February "Fruit World,") is quite inconsistent with the formal declaration of the As-

been at the best, say, £29/6/8d. The sugar landed in Australia would have price of the Australian article is fixed at £27. Both these sugars have to go through the process of refining. It is not true as alleged in your article that the Java sugar is more suitable for the manufacture of jam. Mere assertion one way or the other, however is worth nothing, and on this matter I will refer you to the official evidence taken in New Zealand where, during the war, Java sugar was tried for jam and other manufacturing purposes with disastrous results. This evidence can be found in the pamphlet issued by the New Zealand Government on the subject.

It seems necessary to repeat once more the fact that for the export trade a full rebate of the duty is and always has been allowed. Furthermore, the jam or canned fruit containing Australian sugar, receives on entering the United Kingdom a preference of £4/5/8d. per ton. It is a fact that during the past few months it has been actually cheaper for the Australian manufacturer to use Australian sugar for this trade rather than the foreign article. And as the fluctuations in the rebate allowed of which you complain, these fluctuations simply follow the world's prices. The importers of sugar would be subject to this variation just the same. The price of Australian sugar has the merit of being fixed, and Sir Henry Jones himself has said that this was what the manufacturers really wanted. The price, so far as the domestic trade was concerned, was a secondary consideration in his view. As to the alleged slump in the jam trade being due to higher sugar costs, these facts should be borne in mind—viz.—the sugar content per lb. of jam is 9.6 oz., costing 2.55d., and in preserved fruit it is only 1.6 oz., the cost being .425 of a penny per lb. All other manufacturing costs, wages, freights, etc., have increased many times more than the sugar costs. It is an absolute fact that if sugar were now supplied for nothing Australian jams and canned fruits would still be dearer than in pre-war days. This may be no consolation to the fruit-grower when he reviews the price which he is receiving from the manufacturer, but it should at least serve to put him on the right track for enquiry.

The simplest proof that it is not the price of sugar that is crippling the jam trade, is afforded by the condensed milk business. A tin of this milk contains 40 per cent. of sugar, and so far as supplies are concerned the manufacturers of this commodity are placed in precisely the same position as the jam manufacturers. What do we find? The export of tinned milk only commenced in 1915, when its value was under £50,000, and it has increased steadily year by year until now the exports are valued at over two millions sterling per annum. There has never been a word of com-

plaint about dear sugar strangling the condensed milk business. It is as clear as daylight, therefore, that the fruit-growers must seek for the cause of their troubles elsewhere than in the price of sugar. And as to this cause, Sir Henry Jones has a very definite opinion. In the last annual report of his company he says that "not merely the prosperity, but the existence of the fruitgrowing and canning industries" have been imperilled through the reckless and extensive planting of orchards causing an excessive production of fruit. The Prime Minister, Mr. Bruce, intimated to the Economic Conference in Lon-

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MURDOCH BROS., Hobart

sociated Jam Manufacturers and Canners. I presume the views of the latter body should be taken, and they only ask for the right to import sugar at the world's parity, but state that they are willing to pay the protection duty of £9/6/8d. per ton.

What is the "burden" then under these conditions? According to your own article the lowest price at which Java unrefined sugar might have been obtained (for a short period only) was £20 per ton. With the duty added, agreeably to the declaration above quoted, the price for this foreign

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King's Cross, N.1. Telegrams,
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3-5 Fudding Lane, Monument,
London, E.C.3. Tel. Avenue 7990.
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18 Stanley St., Liverpool. Tel.
Central 888. Telegrams, "Gera-
cost, Liverpool."
Southampton Docks (Facing
No. 45 shed), Tel. Southampton
2207. Telegrams, "Geracost,
Southampton." American
Branch, 202-4 Franklin St.,
New York. Cables, "Geracost,
New York."

don that the Commonwealth had lost £600,000 in subsidising the fruit industry, and that they now intended to remedy the matter by restricting production.

Editorial Note.

The tenor of Mr. Pritchard's article appears to be to prove that the sugar position has no effect on the fruit industry. It is clear, however, to every intelligent fruit producer, as well as to the mass of the general public that with regard to jam and canned fruits (particularly the former) the ingredients are fruit,

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and sugar, and that if the price of sugar is inflated, or if the channels of trade become dislocated, the other commodity suffers, more especially as fruit is such a perishable product. Basic factors of major importance, and basic economic principles are ignored by Mr. Pritchard in his academic and doctrinaire communications.

The control of sugar has proved irksome, costly, and unwieldy, often leaving manufacturers in a state of uncertainty in regard to the vital matters at a time when prompt decision was imperative. The high price of sugar, particularly during the latter stages of Federal Government control, also prevented the sale of much fruit to housewives. Growers of jam and canning fruits thus found their two main sources of distribution, namely, to factories and to housewives, in a chaotic state. These facts are so well known that for Mr. Pritchard to feign ignorance of them rather weakens his position as a critic.

As regards the request of the Associated Jam Manufacturers for the right to import sugar and pay the duty, what point is Mr. Pritchard making? The right to do so has been, and still is denied.

Then, again, his statement that the price of Australian unrefined sugar is £27 a ton is misleading, as the com-

modity cannot be purchased at that figure. What, then, is the use of stating a price if the goods cannot be purchased at that figure? "Here you are, sir," says Mr. Pritchard, "unrefined sugar £27 a ton. That is the price, but the sugar is not for sale." Therefore Mr. Pritchard's argument damages his cause.

Now, as regards mill-white sugar, Mr. Pritchard simply begs the question. Practical manufacturers with a lifetime's experience in the business declare that this sugar is eminently suitable for their purposes. Mr. Pritchard, the General Secretary of the A.S.P.A., with which the refining interests are so closely allied, states that only the refined article should be used. Who is to be believed—the practical man, or the theorist and partisan?

To quote the condensed milk business in this connection is a waste of words. The conditions are not analogous. The success of the fruit industry is dependent upon the speedy absorption of the crop by the factories and in other marketing channels, and there is no connection between this and an industry which has marketing facilities not open to the fruitgrower.

In connection with the planting, under Government auspices, of Peaches and other soft fruits, Mr. Pritchard harps as usual on that sec-

tion of the industry relating to canned fruits, neglecting, as we have previously pointed out, the jam business—yet for the most part, the same factories attend to both canning and jam making, and the whole organisation of that business has been hindered because of the inequitable sugar position. Doubtless, other factors have contributed to the depression in that section of the industry producing canned and jam fruits, but to neglect or minimise the harm already wrought by the unfair preference given to the sugar industry would be foolish.

The present price of sugar in Australia and on the world's markets has nothing to do with the conditions of the past few years. The sugar embargo has already wrought great harm to the fruit industry, and it should have been possible without damaging the great Australian sugar industry to see that an unfair burden was not placed upon the fruit producer.

Sugar cane growers have expressed much more sympathy with their fellow primary producers, the fruit-growers, than Mr. G. H. Pritchard, who apparently speaks for the refiners. The sugar industry has received preferential treatment at the expense of the fruitgrower, and this is the economic injustice against which the fruit producer protests.

The Almond in California, U.S.A.

(By F. W. Allen.)

THE STATE of California contains 50,000 acres of bearing Almond trees, and nearly as many more which as yet have not reached bearing age. Although large importations are received from Spain, Italy and France, 98 per cent. of the domestic supply is grown in California. Small sections in Arizona, Texas, Utah, Oregon and Washington produce the other two per cent. The explanation for California's apparent monopoly on the crop is primarily due to the early blooming habit of the tree. March first is the average date at which most varieties of Almonds are in full bloom. In many instances, however, they begin to blossom a month earlier—at a time when most fruit sections are still experiencing freezing weather.

Almond Tree Similar to Peach Tree.
On account of this production being so localized, comparatively few would recognise Almond trees when seen. In many respects the tree and its manner of growth is not dissimilar to the Peach, to which it is closely related. The leaves are similar in shape but usually somewhat more narrow and of a slight greyish tinge. The main branches of the tree are often of good size and the younger bark smooth and of a mahogany red color. The fruit is, of course, quite different. Instead of having a thick, fleshy portion, or pericarp, as does the Peach, the Almond possesses a thin, leathery pericarp or hull. This hull becomes dry in September and usually splits open, exposing the nut inside. It is therefore the seed itself which is of interest in the Almond. There are also two distinct types of this fruit—the sweet and the bitter Almonds. The former are sold as fresh nuts to the commercial trade in large quantities and are in demand during the holiday season. Besides being a fine flavor they are a very highly concentrated form of food, possessing even a higher nutritive value than the grains. Blanched Almonds are also used in large quantities by confectioners for candies, macaroons and the soda fountain trade. The general demand for shelled Almonds is increasing and Almond butter is now a new article of diet.

The bitter nuts—except when by mistake one may attempt to eat one—are largely used by nurserymen for the production of rootstocks upon which are budded the cultivated varieties. They are also in demand for the manufacture of Almond oil, Almond flavoring and prussic acid. Since the introduction of Almonds in California some 70 years ago, much progress has been made in develop-

ing desirable commercial varieties, those producing large and regular crops; nuts with a thin shell and a large, well-flavored kernel. To-day the Nonpareil, Ne Plus Ultra, the I.X.L. and the Drake stand at the top of the variety list, and are in the greatest demand.

Pollination.

Crop production depends not only upon freedom from frost in spring, but also upon the proper mixture of varieties in the orchard. For some undiscovered reason, the blossoms of any Almond tree are incapable of fertilizing themselves or the blossoms of any other tree of the same variety. At least two varieties, therefore, must be growing in close proximity or no crop will be produced. Care must further be taken to know that these are not inter-sterile themselves and that they blossom at approximately the same time. With the varieties mentioned above, Nonpareil may be pollinated with Drake or Ne Plus Ultra but with I.X.L. it is inter-sterile. Contrary to popular opinion, pollination of fruit trees is not dependent upon the wind, but upon insects, primarily the honey bee. Unless wild bees are numerous, it is recommended that one hive be placed on each acre of orchard.

Red Spider Serious Pest.

Aside from the regular spraying programme given the Peach, Almonds have a very serious pest in the form of the Almond mites, commonly spoken of as "red spiders." These very small mites suck the plant juices from the leaves, and, if left unchecked, cause them to drop prematurely, often as early as mid-summer. Dormant spraying is recommended against those forms which winter over on the trees in the egg stage while summer spraying with a wetable sulphur or dusting with flowers of sulphur is used against those which are found on the tree only during the growing season.

Harvesting.

Knocking the crop of nuts from the trees with long bamboo poles sounds as though it might be fine recreation. However, with a large crop to harvest, and this while the temperature is still ranging from 90 to 100 degrees, one is soon relieved of any disillusion he may have possessed. The process of knocking consists of giving each branch one or more light, quick blows. When at the proper stage of maturity, these will be sufficient to bring the nuts to the ground in showers. In order to avoid expense in handling, the nuts fall on two large pieces of heavy canvas, known as "Almond sheets," previously placed under the tree. As each tree is stripped of its crop, the sheets are gathered up and the nuts dumped into lug boxes placed at frequent intervals in the tree row or on to a low platform drawn through the orchard on sleds or low wheels. Where the crop from any one tree is light, the

sheets may be dragged from tree to tree until they are well filled.

As fast as harvesting proceeds, the nuts, hulls and leaves, while still moist, are taken to the huller. Some nuts drop from the hulls as they are knocked from the trees, but with most varieties this is true only to a very limited extent. Hand hullers are used by small growers but these merely break the hulls from the nuts and do not separate one from the other. In this case hand sorting is necessary. Combined hullers and separators, operated by a gas engine or electric current are used on most commercial orchards. These are manufactured in different sizes to accommodate the needs of the grower.

Hand Sorting Necessary.

Following hulling, hand sorting is necessary to remove all gummy or inferior nuts or to pick out all pieces of hulls passing through the separator. The nuts are now ready to be spread on trays and placed in the sun to thoroughly dry. With no danger of rain and the hot dry weather usually prevailing at harvest time, drying is quickly accomplished. The nuts are now ready for market except for the fact that a light bleaching is necessary in order to give them the bright, yellow color demanded by the trade. The bleaching process consists first of spraying the nuts with water or subjecting them to steam and then exposing them to sulphur fumes from 10 to 30 minutes. Great care is taken in doing this in order to prevent oversulphuring, which would give the shells a pale, sickly color and might also result in affecting the quality of the kernel itself.—"American Fruitgrower."

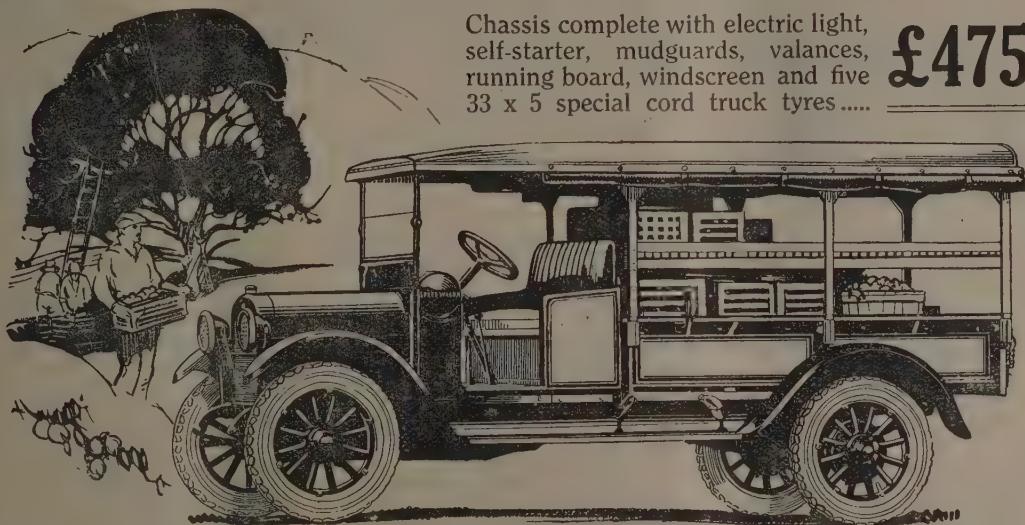
VICTORIAN AGRICULTURAL DEPARTMENT.

Changes in the Science Branch.

Our readers will learn with pleasure that the capable Plant Pathologist, Mr. C. C. Brittlebank, has been promoted to the position of Biologist, recently vacated by Mr. W. Laidlaw. The promotion carries with it the position of Chief of the Science Branch. Mr. Brittlebank has done much fine work for Fruitgrowers and Nurserymen, who will be glad to learn of his merited advancement.

Mr. E. E. Pescott, F.L.S., in addition to his usual work, has taken control of the whole of the seed work of the Department, including Federal and Quarantine work as well as State.

A Large Pumpkin.—A very large Pumpkin has been grown this season at the Burnley Horticultural Gardens (Vic.). This is of the "Mammoth" variety, and the seed was supplied by Messrs. F. H. Brunning Pty. Ltd. The variety was well named, for one of the Pumpkins scaled at a weight of 181 pounds.



Chassis complete with electric light, self-starter, mudguards, valances, running board, windscreen and five 33 x 5 special cord truck tyres

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The Fruitgrower's Rapid Transit System

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Victoria.

EX-SOLDIER FRUITGROWERS. Concessions in the Goulburn Valley.

Ex-soldier fruitgrowers in the Goulburn Valley who recently requested amended conditions relative to repayments and other matters, have accepted the proposals of the State Rivers and Water Supply Commission which provide that for seven years from the date of the lease all payments other than water charges falling due be suspended: the delayed instalments to be paid over a period of 20 years at 5 per cent simple interest. Cash advances to be made for living expenses (subsequently repayable, plus 5 per cent. interest), provided that improvements be made equalling the amount of the suspended repayments. On fruit blocks no demand to be made for payment of the current year's crop, provided that the amount represented be expended in reducing liabilities incurred for living expenses and in providing the necessary outlay for the ensuing season: arrears to be paid over the next five years commencing from the 1924-5 harvest.

RED CLIFFS PACKING SHED.

Empire Preferential Tariffs Discussed.

The Red Cliffs co-operative packing shed, was recently formally opened by Mr. A. S. Hopkins, general manager of the Mildura Co-operative Packing Company.

Mr. Hopkins, in declaring the shed open, appealed to settlers to co-operate and to support the manager and directors of the society. Without co-operation and district support the packing shed would not be a success. Mr. Hopkins expressed his belief that the marketing problems of the dried fruits industry would be solved before long. It had been thought that this season's fruit would be sent to England under the Imperial preference proposals outlined six months ago, but growers had been disappointed in this respect. The setback could be a temporary one only, however. He believed that before very long Australian dried fruits would be selling on the London market under a preferential tariff.

A preferential trade agreement could be reached also with Canada, if the two Governments could agree on certain points. He hoped that settlers would realise in time to come that the talk of over-production was not justified.

VICTORIAN FRUITGROWERS' CENTRAL ASSOCIATION.

Annual Convention, Shepparton, May 20th to 22nd, 1924.

The annual convention of the above Association is to be held at Shepparton on May 20, 1924. Train leaves Melbourne 6.30 a.m. on 20th arrive Shepparton 11.30 a.m.; evening train at

4 p.m. on the 19th.

Railway tickets will be issued at reduced rates upon presentation of vouchers. Names of delegates and starting stations to be in hands of Secretary by 5th May. Tickets at reduced rates will be available for wives of delegates.

PROGRAMME.

May 20th.

Afternoon.—Official opening and business session.

Evening.—Address by Mr. J. M. Ward, Supt. of Horticulture on packing and grading and proposed registration of orchards.

May 21st.

Morning.—Business session.

Afternoon.—Demonstration of packing at packing shed by Mr. Ward.

Evening.—Open.

May 22nd.

Morning.—Tour of irrigation areas, and visit to local cannery.

Afternoon.—Trip to Ardmona and Waranga Basin.

Evening.—Social function.

Mr. W. Murray (East Burwood) will give an address on "Co-ordination of Fruit Producers regarding the Marketing of Fruit," and a discussion will follow.

The following subjects are listed for discussion:—Railway matters; Sale of fruit in open cases; Arbitration Court; Secondhand cases; Registration of Orchards; Fruit Shows; Direct distribution of fruit.

Nominations for office-bearers are to be in the hands of the Secretary prior to the opening of the Convention.

VICTORIAN APPLES IN QUEENSLAND.

The Superintendent of Horticulture, (Mr. J. M. Ward) is in receipt of a communication from Queensland, drawing attention to the fact that Victorian Apples are arriving on the Brisbane market, which do not comply with the Regulations under the Fruit Cases Act, Queensland. Very frequently the maker or packer's guaranteed brand is omitted from the cases, and in many cases the size of the fruit as stated on the cases does not conform with the fruit contained therein; for instance, a case marked 3" and 2½" contains fruit 2½" and sometimes 2¼" in diameter. If growers continue to omit the maker or packer's guarantee mark on the cases and otherwise do not comply with the regulations, there is every indication of their Apples or Pears being rejected in Brisbane, or having them re-packed and branded at the growers' expense.

It was the intention of the Superintendent of Horticulture to have had a number of packing classes in operation ere this, but owing to the

outbreak of fruit fly in a number of districts in Victoria, every available officer has been doing inspectional work, therefore unfortunately, these classes had to be postponed for the time being.

Every endeavour will be made to have these well established before very long, and it is by educational methods that the Department hopes to obtain the best results for improving the grading and packing of fruit.

On April 23rd and 24th, a delightful Horticultural Trade Exhibition was held at the Melbourne Town Hall under the auspices of the Nurserymen and Seedsmen's Association of Victoria, with the object of assisting the Cronin Memorial Fund. Lectures on popular horticultural topics were delivered by experts. The Show was of great educational value, and was a distinct success.

Over 1,600 Prizes at Shows.

Mr. W. Hubbard, of Steel's Creek, Victoria, who has been a very successful exhibitor at most of the Victorian Fruit Shows for many years, did not show much fruit this year. During the past fifteen years that he has been exhibiting, he has secured over 1,600 prizes.

WATER AS A VEHICLE FOR SPREADING PLANT DISEASES.

Discussing the "damping off" disease to which tomato seedlings are subject, Dr. W. Bewley, Director of the Lea Valley Experimental Station (England), points out in a recent issue of the *Journal of the Royal Horticultural Society* (London), the significance of a pure water supply. The organisms of the fungi responsible for the disease mentioned are carried from season to season in the soil, water, seed-boxes and pots.

"The great importance of having a pure water supply cannot be too firmly impressed upon the minds of the cultivators of plants, for all methods of sterilizing soils must be useless if copious infection is carried with each watering." Dr. Bewley describes how, in 1920, he collaborated in an extensive examination of local nursery water supplies by carefully filtering large volumes of water. "Our results showed that deep artesian wells were free from contamination, but shallow wells, brooks and ponds were frequently polluted with fungal and bacterial parasites."

"Agricultural Gazette of N.S.W.,"

"You're looking bad, Sandy."

"Aye, I've been in the hospital and the doctors have taken awa my appendix."

"These doctors 'll tak' onything It's a peety ye dinna have it in your wife's name."



Conveniences for the Country Housewife.

HERE HAS BEEN GREAT CONCERN expressed at different times with regard to the gradual drift to the cities of country people.

At first glance one might wonder at this being so, but I am sure that the hardship under which many farm housewives labour has a lot to do with it. Girls who see their mothers slaving from morning till night, and having to slave as well themselves, are hardly to be wondered at if they declare that city life seems more desirable. There is so much toil that a little forethought on the part of the farmer himself could prevent.

The most convenient house would be under one roof with large rooms, and a verandah all round. This would insure warmth in winter, and be cool in hot weather. If the verandah were wired this would do away with the necessity of wire doors and windows, and provide the additional comfort of wired-in sleeping-out accommodation.

The kitchen, where a great portion of a woman's time is spent, should be provided with every convenience, and be as light and as cheerful as possible. Light oilcloth on the walls has a bright effect, and has the advantage of being washed down. A great labour-saver is a movable draining-rack—movable to permit of thorough scalding occasionally for cleansing purposes. This is cleanly, and saves time and drying towels.

A good plan for throwing light on the top of the stove is to have a window in the outside wall of the chimney just above the top of the stove. A large wood cupboard should be next to the stove, with doors inside and out to permit of it being filled from outside. The laying on of water to the kitchen can easily be carried out by having a tank raised on to a stand and a pipe put through the wall with a tap on the inside in the most convenient place. This saves time and labour. There should be ample cupboard space. A bath heater in the bathroom is a necessity, not a luxury. A small galvanised iron tank on a high stand connected with the underground tank by a pipe and water pumped into it by a force pump will provide water for both shower and bathheater.

HOME MAKING and UPKEEP

(By "Nymphae.")

The laundry is another place, the working of which can be made considerably easier. It seems to be quite usual for troughs to be placed lower than suits the woman of average height, thus necessitating much stooping. Troughs, the exact height, prevent backache. Water should be laid on and taps put above the wash-troughs.

The time is not far distant when a country home will not be complete unless it has electric installation for washing, ironing, cleaning, and lighting appliances, and be connected with telephone. Lessen the drudgery of the country housewife, and make the work congenial and inviting, and much will be done to arrest the drift of the country folk to already overcrowded cities.

OUR CHILDREN.

By Madame Roche.

Be nervous if you must, with every one else, but never with your child. Calmness is strength; excitement is weakness.

Do not offer a child's poor health as an excuse for indulging him. You are preparing him for a life with doubled disadvantages.

A direct question often hurts. Let them feel that your heart is open and all theirs, and they will speak of their own accord.

When you come home, tell them what you have seen. The slightest stories often have a great influence, and teach a lesson naturally.

No solitary education—let them mix with others.

Allow some small faults, and thus avoid great ones.

Make them clearly understand that liberty implies responsibility.

Educating children is a sort of mutual education; we perfect ourselves in trying to perfect them; we climb high so that we may call and urge them to follow.

Do not scold them before strangers. It is a useless humiliation which they will surely hold against you.

Reflect before you answer, but then let yes be yes and no be no.

Nothing is more natural than to wish our children to be happy, but let us teach them to find happiness



in balance, duty and order; disorder brings only unhappiness.

Some people's genius lies in giving infinite pains.

THE KITCHEN.

Melon and Passion-fruit Jam.
One medium-sized Melon; 5 oz. Passion-fruit.

Scoop out the contents of the Passion-fruit and heat until the seeds can easily be separated. Put through a sieve, and add to the jam a few minutes before it is finished. Allow 1 lb. sugar to 1 lb. fruit. Cut the Melon into dice and sprinkle with one-third of the sugar. Allow to stand overnight. Boil up and add the remaining sugar when fruit is soft. Bring again to the boil, and allow to simmer for half-hour.

Sun-Raysed Currant and Apple Tart.

Line a tin plate with pastry (short or puff) whichever preferred. Peel and core three or four large cooking Apples, then slice very thinly and put a thick layer of the sliced Apple on the pastry, then sprinkle a handful of Sun-Raysed Currants and seeded Sun-Raysed Raisins or Sun-Raysed Sultanas, and a few very thin slices of Lemon peel. Then sprinkle over a handful of sugar, add another thick layer of sliced Apples, sprinkle with sugar, cover with pastry. Pierce the pastry half-a-dozen times with a fork, and bake in moderately hot oven for half hour. A delicious tart.

Sun-Raysed Apple and Currant Cheese Cakes.

1 egg, 2 oz. butter, 2 oz. sugar, 2 tablespoonsfuls stewed Apples, Lemon rind and juice, 4 oz. Sun-Raysed Currants.

Method.—Warm the stewed Apple, butter and sugar together, beat in the egg and Currants, flavour nicely with grated Lemon rind and juice. Bake in pastry-lined patty pans.

Sun-Raysed Johnny Cakes.

Make a short pastry, roll out thin; spread Sun-Raysed Raisins or Sultanas thickly on. Put layer of pastry on top; roll just enough to keep together. Mark into squares, and when baked, they will separate easily where marked.

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we could keep on telling you of our service, but what we really want is the opportunity to SHOW you just what we mean by saying that we are

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Tasmanian and Victorian Shipping
Number 173

Sun-Rayed Tennis Cake.
6 oz. butter, 6 oz. sugar, 10 oz. flour, 4 eggs, 6 oz. seeded and chopped Sun-Rayed Lexias, $\frac{1}{2}$ lb. Sun-Rayed Currants, $\frac{1}{2}$ lb. Sun-Rayed Sultanas, 4 oz. mixed peel, 8 oz. Almonds, 1 small teaspoonful of baking powder.

Method.—Beat butter and sugar to a cream, then break eggs in one at a time. Add the fruits, peel and Almonds, and lastly sift in the flour and baking powder. Time to bake, 2 hours.

Sun-Rayed Mincemeat.

1 lb. Sun-Rayed Sultanas, Lexias (seeded), 1 lb. Sun-Rayed Currants, 1 lb. Sun-Rayed Prunes, $2\frac{1}{2}$ oz. Orange or Citron peel, $\frac{1}{2}$ lb. beef suet, $\frac{1}{2}$ lb. preserved ginger, $2\frac{1}{2}$ lbs. Apples, $2\frac{1}{2}$ lbs. sugar, spice, cup of brandy.

Method.—Peel and chop Apples finely, stone Prunes and chop finely. Mix all together, and any spice desired.

Note.—Chop suet finely. Cover with brandy paper. Will keep any length of time. Nice for tarts or boiled roll.

Sun-Rayed Lexia Scones.

3 cups flour, 1 cup of mixed Sun-Rayed fruit, Sultanas, Currants, Lexias, 2 teaspoons cream of tartar, 1 teaspoon carbonate of soda, $\frac{1}{2}$ teaspoon salt, $1\frac{1}{2}$ cups milk, or milk and water.

Method.—Sift flour, cream of tartar, soda, salt together. Run in the butter, add fruit and milk. Cut into scones.

Sun-Rayed Fruit Sandwiches.

Take a cup of Sun-Rayed fruits (Lexias or Sultanas), 2-3rd of a cup of boiled ham, $\frac{1}{4}$ cup of sweet Cucumber pickles, and chop small or put through a mincer. Add 1 tablespoonful of Lemon juice, and mix with mayonnaise to spreading consistency.

Sun-Rayed Rock Cakes.

1 cup dripping or butter, 3 cups flour, essence of Lemon or Vanilla, 1 cup Sun-Rayed Sultanas or Currants, 2 cups sugar, 2 teaspoons baking powder, 1 egg, half (about) cup milk.

Method.—Rub butter and flour (sifted) with baking powder together, then add sugar and fruit—and mix to a stiff dough with egg and milk. Put pieces the size of a walnut on buttered baking sheet, and bake a nice brown.

APPRECIATION.

Paterson, N.S.W.,

13/2/24.

"I have been a subscriber to the 'Fruit World' for many years, and have, at all times, thought it worth more than its price. It has been ably edited, and has been valued for its information."

(Signed) J. D. T.

Classified Advertisements.

Wanted and For Sale.

Advertisements under this heading, which cannot exceed one inch, will be classified as far as possible. Prices are as follows—

Casual Advertisements, one or three months—9d. per line of six words. Nine lines to the inch.

Contract Advertisements, six or twelve month, 6d. per line of 6 words, 9 lines to the inch.

Send cash with order.

BOOKS.

FRUIT WORLD ANNUAL AND TRADE RECORD, 1923 edition available. 3/- Posted—9 Queen Street, Melbourne.

PRUNING FRUIT TREES, By C. Quinn. Illustrated. 4/6 posted— "Fruit World," 9 Queen Street, Melbourne, Vic.

FOR SALE.

ALIMITED quantity of our new late Raspberry (Exton's Late Prolific.) Fruit commence to ripen as other varieties are going out, thus extending the season.

For further particulars apply,
C. Exton and Son,
Kinglake, (Vic.)

CHOICE GLADIOLUS BULBS.
All large flowering show varieties.

Six different for 3/6, post free.
WHITING BROS.,
Farm 19, GRIFFITH, N.S.W.

PATENTS.

THE Proprietor of Australian Patent No. 141, dated 18th September, 1914, for "Improvements in Boxes and Methods of Making the Same" will dispose of the whole or part interest in the Patent or grant licences on ROYALTY and invites tenders in respect of same in order to fulfil the full requirements of the trade and public. Address enquiries to

PHILLIPS, ORMONDE, LE PLASTRIER & KELSON, Patent Attorneys and Consulting Engineers, 17 Queen Street, Melbourne, where drawings and specifications may be obtained.

WE BUY LEMONS

Green Citrons and Shaddocks, Seedling Oranges, Tomatoes, Cherries for crystallising, Loganberries, Raspberries and Strawberries, Passion Fruit.

C. M. BROOKE & SON,
Whiteman St., South Melbourne, Vic.

Orchard Implements.

Growers are invited to write to D. Harvey, Box Hill (Vic.) for illustrated catalogue of orchard, vineyard and farm implements. As will be seen in the advertisement on page 253, he has all kinds of plows, cultivators, also tractor implements for the man on the land.

Pruning Fruit Trees.

THE IMPORTANCE OF proper attention being paid to the pruning of fruit trees was pointed out in South Australia recently, when a member of one of the Agricultural Bureaux in the Adelaide hills gave his experiences as follows:—

The object of pruning was, he said:

- (1) To increase the size and quality of the fruit,
- (2) To secure regular crops over a long period, and
- (3) To guard against unfavorable climatic conditions. The methods

H. M.
WADE
& CO.

Fruit Merchants

Prompt Advices of Sales
—CHEQUES WEEKLY—

471 FLINDERS LANE
MELBOURNE

Edward Jacobs
& Sons

Covent Garden Market
LONDON, England

Solicits Consignments
of Australian Fruit.

Tasmanian Representative:

W. D. Peacock & Co. Ltd
PRINCES WHARF, HOBART

Shipping Number 418.

adopted should be varied to suit the climatic and soil conditions.

Pruners should understand thoroughly the importance of gauging the quantity of fruit that could be borne by a tree, the ability of the tree in that respect being measured by the rate of growth, variety, soil, and the climatic conditions.

The Sturmer Apple needed very little shaping and encouraging, but it was inclined to produce too many spurs.

The Rome Beauty was just the reverse. One important point which

required consideration was the shaping of a young tree. The young tree could be more easily trained to grow in the desired direction than an old tree. He advocated the

inverted conical shape to suit their climatic conditions. It had the advantage of admitting a greater surface to the light and air.

When planting the young tree, the strongest leader should face towards the prevailing wind.

When the tree was pruned the following year it should have six leaders and they should be so trained that they would carry a heavy crop without affecting the formation of the tree to any great extent; there would then be no occasion to support the leaders, and they would be better able to withstand strong winds.

A successful way to open trees that had a natural tendency to grow upright was to cut to the inner bud, and during the summer cut the inner leader back; by so doing the growth would be forced to the outer leader.

That process could be repeated during the following years. An important factor was the admission of heat and light. Some people believed in having their trees dense, but that was not necessary; one could still have the conical shape, providing the upper surface laterals were placed in such a way as to give the necessary shade to the fruit. Experience had shown that if the trees were dense, an inferior class of fruit, both in color and quality, would be secured from the lower portion of the tree.

Good fruit developed on good bearing wood, but in the case of some fruits bearing wood was new wood, and the reduction of old wood should be constantly in mind for the purpose of forcing new growth.

The size of the fruit, providing it was healthy and vigorous, depended on the amount of bearing wood the tree was allowed to carry.

Particular attention should be given to cutting to a bud, for it was important to sever the shoot at a distance from a bud which gave it the best chance to grow well, and at the same time facilitate the healing of the scar.

Cutting too far from the bud would leave a stub, which died back, and cutting too close to a bud would make a weak shoot.

Summer pruning to reduce bearing wood was rarely practised, on account of the growers being occupied with packing and storing, but he was of the opinion that summer pruning was essential to most young trees that had a habit of producing bare wood.

PRUNING TESTS.

Dealing with the pruning tests conducted at the Government Experimental Orchard, Berri, during 1919, the Manager (Mr. C. G. Savage) reports that the Royal Apricot, as in

1918, gave the heaviest yield from trees whose leaders were pruned to definite dormant buds, but the average over the three seasons' treatment of this variety is in favor of the trees whose leaders were pruned to the "unstopped" system.

The Moorpark variety, on the other hand, for the third year in succession, produced the heaviest crops from the trees whose leaders were pruned in the popular style, to definite dormant buds.

The Early Crawford Peach, again, gave the greatest weight from the

F. W. MOORE & CO
LIMITED
Clarence House
Arthur Street, London Bridge
LONDON E.C., 4, Eng.

We are the largest receivers of Green Fruit from Australia, our consignments having steadily increased annually since our business was established in London in 1902. Our Managing Director has had the handling of consignments to the markets of Great Britain and Europe since 1900, and personally supervises the sale of all fruit consigned to the Company. Fruit is placed for sale in whatever markets or way (auction or private) appear most suitable, thus getting it before all classes of buyers; our increasing consignments demonstrate the success of this practice.

F. W. J. MOORE,
Managing Director.

Telegrams: Tirralirra London

Bankers: Bank of New South Wales.

trees pruned with "unstopped" leaders, whilst the Elberta gave the heaviest yield from the trees pruned with leaders cut to definite dormant buds. Similar results were obtained in 1918, but in 1919 the "unstopped" leader system gave the greatest weight of fruit.

The average returns for the three seasons' work on this variety are in favor of the trees with leaders pruned to definite dormant buds.

The learning and knowledge that we have is, at the most, but little compared with that of which we are ignorant.—Plato.

Control of Apple Mildew

Valuable Experiments in New South Wales

By W. le Gay Brereton, Assistant Fruit Expert, and H. Broadfoot, Orchardist,
Glen Innes Experiment Farm, N.S.W.

EXPERIMENTS dealing with the control of Apple Mildew have been carried out by the Department of Agriculture of New South Wales with interesting results (as published in the "Agricultural Gazette" of New South Wales.) Following the tests culminating in the report of the 1920-21 experiments, the work was continued and the results of the two following seasons justify the conclusion that both atomised sulphur (an Australian production) and colloidal sulphur, are as effective as atomic sulphur as sprays for powdery mildew of Apple. In the season 1922-23 a test was also made with hydrated lime-sulphur for the control of this disease, and it gave most promising results. Tests are to be continued with this spray to ascertain whether after repeated trial it continues to give good control, for its preparation is simple and more in accord with orchard methods than colloidal sulphur. It is also to be determined whether the quantity of sulphur and lime in hydrated lime-sulphur can be reduced.

The recommendations for control of powdery mildew of Apple are as follows:

1.—Cut out and burn mildewed twigs as far as possible during winter pruning.

2.—Spray with atomic or atomised sulphur (12 lb. to 100 gall. of water) or colloidal sulphur at the spur-bursting stage.

3.—Spray with atomic or atomised sulphur (12 lb. to 100 gall. water) or colloidal sulphur combined with arsenate of lead at the times of application of the latter.

The comparative cost of 100 gallons of mixed spray of atomic sulphur, colloidal sulphur, and hydrated lime-sulphur are given below. In the case of colloidal sulphur and hydrated lime-sulphur, cost of preparation is included. But it should be borne in mind that the cost of preparation is only claimed to be approximate, as work of this kind on the orchard is carried out in scraps of time, and it is difficult to estimate the exact cost of work that is not carried out continuously over a fairly long period.

Atomic Sulphur.—The cost of 100 gallons atomic sulphur spray, using 12 lb. atomic sulphur at 9d. per lb. (purchased in 100 lb. parcel) to 100 gallons water, is 9s.

Atomised Sulphur.—The cost of 100 gallons atomised sulphur spray, using 12lb. atomised sulphur at 9½d.

per lb. (purchased in 100lb. parcel) is 9s. 6d.

	s. d.
10 gallons home-made concentrated lime-sulphur	3 6½
6 pints commercial sulphuric acid	1 5½
Time	2 1½

Cost of 250 gallons colloidal sulphur spray	7 1½
Cost of 100 gallons of spray	2 10

	s. d.
20 lb. lime	0 8½
20 lb. sulphur	2 9½
Time	0 10

Cost of 100 gallons of spray	4 3½
------------------------------	------

The following quotations were used in calculating the cost of the last two sprays:—Lime at £2 per 10 cwt.; Sulphur at £7 15s. per 10 cwt.; Sulphuric acid at £6 per cwt.; time at 13s. 6d. per day of eight hours.

In comparing these costs it is worthy of note that colloidal sulphur can be made in "stock" quantities and kept. Hence, by the orchardist doing this himself in "off" times, the time taken in preparation need not interfere with the work of spraying or be an actual cash expense.



KILL THE CODLIN MOTH

and other insect pests with

HEMINGWAYS (English)

ARSENATE OF LEAD

(Paste)

The Best and Most Successful on the market

Effective, Economical and Easy to Use

Prices

1/3d per lb. for 100lb. kegs

1/3½ per lb. for 50lb. kegs

Wholesale distributing agent for Victoria,

Esmond Russell

60 Queen Street, Melbourne

CRONIN MEMORIAL FUND.

A fund has been opened to perpetuate the memory of the late Mr. J. Cronin, who, in his lifetime, performed noted service to the Australian fruit industry. The Chairman and Treasurer is the Right Hon. the Lord Mayor of Melbourne, Cr. Brunton.

It is proposed that the memorial shall take the form of a Horticultural Scholarship. The Cronin Memorial Fund Committee recently had an interview with the then Minister for Education, Sir Alex. Peacock, M.L.A., who expressed sympathy with the objects of the Committee, and said that if the objects are to be fulfilled it will be necessary to add the subject of horticulture to the present curriculum of the State schools and the Secondary schools, finishing with a diploma at the University. It was decided to arrange a conference between the Education Department, the University authorities and the Cronin Memorial Committee, to go into the necessary details.

The committee hopes that the fruit-growers and all interested will subscribe to the Cronin Memorial Fund, and thus not only assist in perpetuating the name of a noted benefactor to the industry, but also will assist in establishing a diploma of horticulture in the Victorian educational system.

Let me be a little kinder,
Let me be a little blinder,
To the faults of those about me!
Let me praise a little more.
Let me be, when I am weary,
Just a little bit more cheery—
Let me serve a little better,
That which I am striving for.
Let me be a little braver
When temptation bids me waver;
Let me strive a little harder
To be all that I should be;
Let me be a little meeker
With a brother who is weaker;
Let me think more of my neighbour
And a little less of me.

—Mrs. R. L. S.

"HIP-HIP-HURRAISIN!"

That's What the Sailors Say.

The officers and men of the Special Service Squadron appreciated the thoughtfulness of the Australian Dried Fruits' Association in supplying three thousand packets of Raisins (Sultanas and Muscatels) in cartons, neatly labelled "With the Compliments of the A.D.F.A."

New slogans have been coined, such as "Hip-Hip-Hurraisin," and "Three Cheers for Free Chews." The British sailors are now walking propagandists for Australian dried fruits, the Australian brand of which are superior to anything else in the world.

New Zealand

The Director of the Horticulture Division has received the following reports from his officers regarding orchard and marketing conditions at the end of March, 1924.—

Auckland.

Apples:—Average crop, later varieties now being harvested.

Lemons:—Light.

Pears:—Light.

The amount of Apples offered by the Packing Sheds for export is disappointing. A large amount of exportable fruit is being placed in Cool

MARGETSON & CO. LTD.

Fruit Importers & Salesmen

30 James St. and James St. Warehouses,

11 Neil St.,

COVENT GARDEN LONDON, W.C.

and at

Jamaica House,

9 & 10 Botolph Lane, London, E.C. & 56-58 Stanley St., Liverpool

Sales by PRIVATE TREATY.
Prompt Returns & Settlements

Tel. Add.—FRUTERO, LONDON.
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Head Office—Covent Garden Market, London, W.C.

Bankers:
LLOYD'S BANK LIMITED
Law Courts Branch, Strand,
London, W.C.

TASMANIAN AGENT

A. J. WALSH,
41 Collins Street,
HOBART.

Store for the local market, which it is feared will be over-supplied.

Te Kauwhata.

Apples:—Good crops have been harvested.

Pears:—Light.

Lemons:—Looking well.

Grapes:—Exceptionally good.

Prices were very fair at the commencement of the season, but have slumped during the last week.

Poverty Bay.

Apples:—Delicious now harvested. Sturmers going into cool store. Dougherty not harvested. Crop about sufficient to meet local demands. One third of Apple crop dropped during recent gale.

Lemons:—Good crop maturing.

Walnuts:—Fair crop.

Hawkes Bay.

Fair to good crops have been harvested. Proportion of Sturmers still being gathered; fine crop of Dougherty to come forward.

Pears:—Cool stores holding good stocks of Winter Cole, Winter Nelis, and P. Barry. Crops have picked out very satisfactorily.

Walnuts:—Fair crops.

Manawatu and Wairarapa.

Apples:—All harvested.

Pears:—Very few good samples on local markets; chiefly rubbish and wind falls.

Strawberries:—Good second crop being harvested. Prices remain good. In this district Sturmers, Cox's, Delicious, and in some cases Jonathans are yielding very heavy crops, with a high export percentage.

Nelson.

Apples:—This year the pip fruit crops have matured earlier than they have done in previous years owing to the dry summer. Practically all the Dunn's, Jonathan, Delicious, London Pippin, Cleopatra, Adams Pearmain, Spitzenberg, Boston Russet and Statesman are picked. Sturmers, Dougherty and Rokewoods nearly ready. Up to 31st March 23,131 cases of Apples were exported to England and South America from this district. The crop generally is very free from black spot and russet.

Pears:—The Pears like the Apples have matured early, and the crops in most orchards have been picked and placed in cool storage. The quality generally is good.

Nelson Central.

Apples:—The end of March has seen the last of the Jonathan off the trees, 20,000 cases of which have been exported. Delicious are now being picked; the production of which will be in excess of last season. The Sturmer crop is a good one and the export of this variety promises to be heavy. Up to the end of the month 42,000 cases have been exported from the district, and the total should reach 65,000 cases for the season. Leaf hopper has become very prevalent during the hot, dry weather, some of the fruit becoming noticeably discoloured owing to the prevalence of this insect.

Pears:—Most of the Pears are now off the trees.

Motueka.

Apples:—Growers are still busy harvesting the crop. The crop of Sturmers is heavier than anticipated, also much larger in size. Very little black spot. Over 17,000 cases exported during month, 10,000 going to Europe, balance to South America.

Marlborough.

The droughty conditions throughout the season have had a very detrimental effect on the midseason and late varieties in the matter of colour. On the average the colour is far below the usual Marlborough standard.

A few weeks ago, maturity promised to be unusually early in all varieties, but a good rain-fall has had

the effect, particularly where foliage was still functioning well, of causing the fruit to continue growing in size, and has to some extent retarded the premature ripening which was in evidence.

Canterbury.

Apples:—All midseason varieties being gathered; yields much below the average. A good deal of codlin in evidence. Prices much above last season's average. The weather conditions during the month have been ideal for harvesting the crops.

Pears:—Good.

SWANN & CO.

Established 1822.

A century's experience in handling

FRUIT OF ALL DESCRIPTIONS

All Consignments for U.K. will have Personal Supervision and Attention

Account Sales and Cheques despatched immediately after sale.

3 SALTER'S HALL COURT, London, E.C., England

Cables:—FIREBRICKS, LONDON

Bankers:—Bank of England.

Australian Representative
Chas. E. Howship, 129 Queen-st.,
Melbourne, and Surrey Chambers,
Perth, W.A.

Victorian Agent: H. M. Wade &
Co., 471 Flinders Lane, Melb.

J. G. MUMFORD

Est. 1906.

Fruit Merchant

Fruit and Vegetables sold for growers from all States.

Account Sales posted daily.

Exporter

Exporter of fruit to English and Continental markets.

449-451 Flinders Lane, Fruit Exchange, Melb.

Reference—Satisfied Growers in all States.

Day Old Chicks.—Attention is directed to the advertisement of Mr. R. Stephens, of the Goodwin Poultry Farm, Blackburn, Victoria, who is offering day old chicks of Black Orpingtons and White Leghorns at £6/6/- per hundred, £3/10/- for fifty, or 18/- per doz. These chicks are of a good laying strain.

These day old chicks are sent in cases by rail to any address. They travel safely by rail, and many readers have expressed satisfaction through sending their orders to Mr. Stephens. A list of instructions is sent with the chicks, the following of which will enable the consignee to rear them successfully.

SOUTH AFRICA.

Fruit Export Trade.

South Africa is rapidly becoming one of the important fruit-exporting countries to supply the European market, and some particulars with regard to its progress will be of interest to readers.

During the 1922 season South Africa supplied the English market with 285,100 cases of Oranges, and more than 46,000 cases of other citrus fruits.

The following are the details of other fruits shipped:—

From Capetown—Peaches, 141,196 boxes; Pears, 520,486; Plums, 88,911; Nectarines, 21,103; Apricots, 9,607; Grapes, 225,214; Apples, 4,065; Melons, 480; sundry fruits, 1,566; total, 1,012,628 boxes (approximately 13,683 $\frac{1}{2}$ tons).

From Durban—Plums, 1,812 boxes; Avocada Pears, 507 boxes; Pineapples, 8,884 cases.

From Port Elizabeth—Pears, 680 boxes; Apples, 2,275 cases; Pineapples, 9,809 cases. These figures represent

a substantial increase over any previous year's shipments, and it is expected that the totals for the 1923 season's exports, which are not available in detail at the moment, will show a further increase of about 33 per cent.

Large quantities of citrus fruits are in sight, there being some 4,000,000 trees in the Union, most of which are just coming into the producing stage, thus making the question of distribution a most important matter.

Special facilities are being provided to induce growers to export their fruit. A particularly low rate of freight is provided to encourage citrus growers to develop overseas markets. Efforts are also being directed towards building up a remunerative market for this class of fruit in Canada. Besides providing a flat rate for the carriage of export fruit over the railways, everything possible is being done to reduce transport costs.

When in 1922 the millionth box of fruit was forwarded for export, the Prime Minister (Mr. Smuts) took the opportunity to go down to the docks and place the box on board himself.

He stated on that occasion that the millionth box of to-day should grow into the ten millionth box in a few years. The rate with which planting is proceeding and the endeavours being made to perfect the grading and packing of the fruit and improve overseas transport facilities suggests that the prediction has reasonable chance of being fulfilled.

Transport Problems.

The following reference to the South African developments, which appears in a recent issue of the "Imperial Food Journal and Empire Produce News," is instructive. Last

autumn Dr. Pole-Evans, chief of the division of botany and plant pathology in the Union of South Africa, was sent to England by Sir Thomas Smartt, the Minister for Agriculture, on a special mission in connection with the South African export fruit industry.

He has now returned home. On landing at Capetown he stated that he was more convinced than ever that South Africa would become one of the foremost fruit producing and fruit exporting countries in the world.

Apart from the natural advantages of the country, he gave as a reason for such confidence in the future the outstanding fact that all were working together to ensure its success.

The
North and Midland
Counties of England

Are directly served by

THE PORT
OF HULL

Every modern facility for prompt handling of fruit.

Docks and quays provide for quick discharge of cargoes.

Sales held daily during the season.

Express train service to all parts of England.

Australian Oranges Sold at Hull in previous seasons brought record prices.

For further particulars apply to

E. BECHERVAISE
Representative in Australia
51 Moorabool St., Geelong
Victoria

The South African Fruitgrowers' Exchange was very much alive to the problems which confronted it; the Union Castle Mail Steamship Company was affording all facilities for the thorough investigation of ocean transport of South African fruit; and the Union Government was far ahead of any of the Dominions in the steps it had taken to foster and prosecute research in the field of fruit transport and fruit diseases.

Safeguarding the Shipper.

Dr. Pole-Evans pointed out that the Union Government had recently

equipped experimental cool chambers on the Windsor Castle with the most elaborate self-recording instruments yet installed on any steamer for observing the various physical changes that take place in the chambers during the carriage of fruit from the southern to the northern hemisphere.

In addition, he mentioned that the Prime Minister had during his stay in London secured on behalf of the fruitgrowers of the Union the services of a brilliant young physicist and engineer, who had special genius for instrument designing, and whose duty it would be to travel backwards and forwards on the Windsor Castle in charge of the recording equipment for the experiments being undertaken.

The advice of this expert would be taken on a number of highly technical matters connected with the transport of fruit overland, and its cold storage at the different ports of the Union.

The Grower's Part.

In concluding, he added, emphatically, that it now only remained for the grower to do his part faithfully, and see that nothing but the best fruit was exported. It would be fatal for fruitgrowers to think or imagine that now that the conditions of storage and transport were being improved, inferior, over-ripe, or badly packed fruit would arrive overseas in sound condition. Far from this being the case, the use of recording instruments would do much towards detecting defaulters.

UNIFORMITY OF PUBLICITY PAMPHLETS.

Some time ago we published some remarks by Mr. A. E. Hyland, Chairman of the Betterment Board, Victorian Railways, in regard to the endeavour to secure standardisation and uniformity of pamphlets issued for publicity purposes in relation to fruit and other matters. Mr. Hyland now writes that he would like to make a correction with regard to the larger pamphlet, and adds:—

"The most satisfactory and most economical sizes, in our opinion, should be for the smaller pamphlet 5 $\frac{1}{2}$ inches by 3 $\frac{1}{2}$ inches when folded or stapled, and for the larger pamphlet 7 $\frac{1}{2}$ inches by 3 $\frac{1}{2}$ inches, when folded or stapled."

All interested in preparing pamphlets, etc., for co-operating with the Railway Department in advertising farm and orchard products, are asked to note the above sizes.

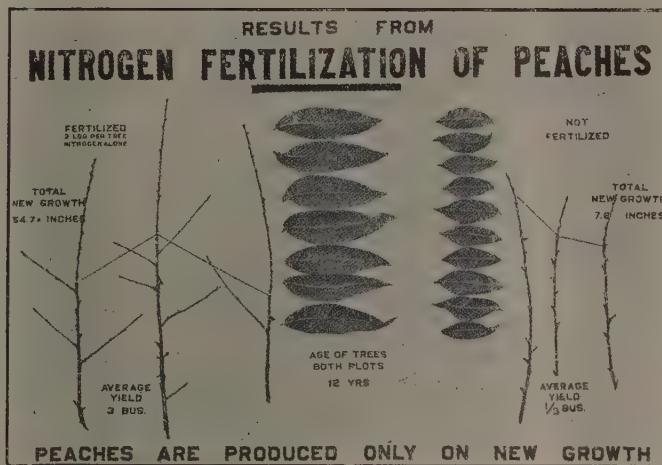
"Fruit World" Appreciated.

Cherry Gardens, S. Aust.
"Enclosed please find postal notes, being payment in advance for the 'Fruit World.' It is a magazine which I look for from month to month, and find a lot of valuable information contained in its pages. Wishing you future success."

6/3/24.

I.L.S.

This Illustration will remind you of Nitrogenous Fertilisers



Well,

SULPHATE of AMMONIA

is still the cheapest and best source
of the supply of Nitrogen to all
Orchard crops.

Write for Sulphate of Ammonia literature to—

THE AUSTRALIAN SULPHATE OF AMMONIA PROPAGANDA COMMITTEE,
360 Collins Street, Melbourne, Vic.

The Australian Gas Light Co., Haymarket, Sydney, N.S.W.; The Broken Hill Prop. Co. Ltd., Newcastle, N.S.W.; The North Shore Gas Co. Ltd., 193 Alfred Street, North Sydney, N.S.W.; The Metropolitan Gas Co., 196 Flinders Street, Melbourne, Vic.; South Australian Gas Co., Weymouth Street, Adelaide, S.A.

MAKING COUNTRY LIFE ATTRACTIVE.

Encouraging the Boys and Girls.

On the subject of making country life attractive, a speaker at a meeting of fruitgrowers, contended that when a child was old enough to take care of money, a savings bank account should be opened in its favor, and on every birthday a sum should be added in order to teach it to save money. In addition to that, each boy and girl should be given a working interest in the farm.

He thought it would be a good plan to give a boy a foal, and when the horse was old enough the boy should have the right to say whether he would sell his horse or have it broken into work. To the young girl he would give a heifer calf.

When the boy was old enough to take charge of a team, he should be allowed to work and put under crop a piece of land for himself.

If a boy were employed on the farm he should be treated as one of the family, and if given a bonus after the year's work had been completed it would encourage him to keep on working. The boy should also be allowed a Saturday afternoon off to attend a cricket or football match, if he wished to do so.

Many children were fond of music, and he believed, if possible, in affording every child an opportunity of learning either the piano or violin.

The speaker concluded with a plea that the hired boy should not be forgotten. If he were allowed to join in the games and music with other children it would make life on the farm very much more attractive for him.

"NEWLIGHT"

Double Furrow Orchard Plough



Weighs only 2 cwt. Can be fitted with knife or circular coulters. Works right up to trees, both ways. Ample strength. The handiest orchard plough on the market.

Liberal extended terms if desired

H. V. McKay, Pty. Ltd.

SUNSHINE

607 Collins Street, West, Melbourne

ENGLISH FRUIT MARKET.

Australian Apples are Superior to the American.

Mr. C. J. W. Booth, a well-known orchardist of Hillwood, near Launceston, Tasmania, who has recently returned from a trip to England and the Continent, made some interesting remarks on his observations while abroad. At the time he was in England, he states, American Apples were being marketed. Questioned as to the condition and "get-up" of this product, he said the American fruit was very good, and opened up well.

The packing was not on the whole any better than the Australian, but the cases were more attractive, because they were pine, which was more conducive to good appearances than hardwood. The flavour of the American Apples, however, was not so good as the Australian, in his opinion. The principal varieties in those shipments were Jonathans, Mackintosh Red, Delicious and Oregon Newtowns.

There was a growing tendency in England to eat more fruit, as shops had been opened up in places where in former years they did not exist, indicating that the demand was expanding. There was a movement afoot to reduce the middlemen's charges.

WENATCHEE VALLEY APPLE ORCHARDS.

Claimed to be the Largest in the World.

The Wenatchee Valley, U.S.A., district contains approximately 30,000 acres of bearing Apple trees, cultivated by over 3,000 orchardists. These growers are Apple specialists, and they concentrate on the growing of eight popular varieties, which are especially suited to this section. The varieties are Winesap, Delicious, Jonathan, Rome Beauty, Spitzenberg, Stayman Winesap and Winter Banana. The 1923 season's crop of Apples for this district amounted to 17,500 carloads.

Some of the natural advantages contained in this centre are the volcanic soil, light rainfall, clear cold nights, an ideal altitude and ample sunshine, which brings out rare flavours. Pure snow water is secured by irrigation from surrounding mountains. The orchardists in this district thin the trees of more than half the fruit each year in order to allow the Apple to receive the full vitality of the tree, and have ample room to grow maturely to perfection.

The average tree production for the 11 year period to 1922 is given as 3.32 boxes per tree, and the average yield 241 boxes.—"Better Fruit."

BIG BUSINESS BUILDER.

Success of Henry Ford.

"My Life and Work," by Henry Ford, is a fascinating story of achievement. The writer believes in the doctrine of rendering efficient service to the public, and in the doing of it to pay a good wage for which faithful service is expected.

Here are a few truth kernels.—

Thinking is the hardest work anyone can do, which is probably the reason why we have so few thinkers.

I am of the kind of democracy that gives to each an equal chance according to his ability.

Every man in the shaking-down process of our factory eventually lands about where he belongs.

The only true Labor leader is the one who leads Labor to work and to wages.

Wherever two men are being paid for what one can do the people are paying double what they ought.

I pity the poor fellow who is so soft and flabby that he must always have an atmosphere of good feeling around him before he can do his work.

Whoever does a thing best ought to be the one to do it.

Wages and Labor.

The trouble with all framers of socialistic and communistic plans for the ideal regulation of society is that they

.. THE ..

Latham Dehydrators

"STAND ALONE"

The "Rolls Royce" of the Artificial Drying World. The Largest Firms consider nothing else, not only for foodstuffs, but for the treatment of more than 120 Industrial materials.

Some Installations for Foodstuffs.

Purchaser	Principal Prods.
Merbein Dehydration Trust, Mildura	Sultanas
Tasmanian Dehydration Pty. Ltd. Bridgewater two plants.	Apricots Prunes Apples
Charles Martin, Yackandandah	Prunes
Swallow & Ariell Ltd. Port Melbourne	Carrots Turnips Cabbages, etc.

D. J. LATHAM

157 Queen Street,

Melbourne, Australia.

all presume that people will stay put. The reactionary has the same idea. He insists that everyone ought to stay put. Nobody does, and for that I am thankful.

We want artists in industrial relationship — those who can mould the political, social, industrial, and moral mass into a shapely whole.

The undirected worker spends more of his time walking about for materials and tools than he does in working. He gets small pay because pedestrainment is not a highly paid line.

Save ten steps a day for each of 12,000 employees and you will have saved 50 miles of wasted motion and mis-spent energy.

If a man intends to be always a manual laborer, then he should forget about his work when the whistle blows; but if he intends to go forward and do anything, the whistle is only a signal to start thinking over the day's work in order to discover how it might be done better.

Every business that employs more than one man is a kind of partnership. The moment a man calls for assistance in his business, that moment he has taken a partner.

If men, instead of saying "The employer ought to do so and so" would say "The business ought to do so and so" they would get somewhere. Only the business can pay wages.

The kind of workman who gives the business the best that is in him is the best kind of workman a business can have. And he cannot be expected to do this definitely without proper recognition of his contribution.

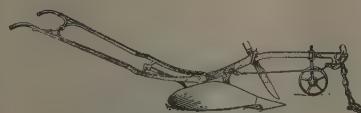
Effective advertising is a chain of ideas, carefully linked together, forcefully expressed; to produce a cumulative reaction upon a definite group of people. The whole secret of advertising lies in follow up.—"Ink."

ADVERTISING AUSTRALIAN FRUIT.

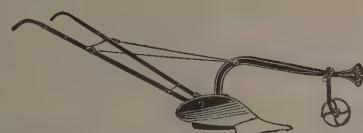
Many English firms are anxious to sell their products to Australia, but not all of them are willing to do anything to encourage our industries in return, states the Melbourne "Herald." One of the exceptions is the big paper firm of Wiggins, Teape and Alex Pirie. When the chairman of directors was out here recently he conceived the idea of advertising Australian fruits in England, and now at each of the seven paper mills controlled by his organisation there is a handsome show case stocked with dried fruits, preserves, etc., and bearing the slogan, "You must buy British Empire produce." In this way the claims and merits of Australian fruits are kept constantly before more than 3,000 employees and many thousands of visitors. Cannot other British business men be induced to adopt the same policy?

"HARVEY" IMPLEMENTS for Orchard, Vineyard and Farm Cultivation

Tractor Ploughs, Discs and Cultivators to suit every Tractor.



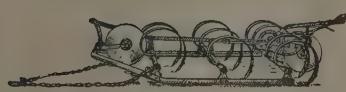
"HARVEY" ORCHARD PLOW.



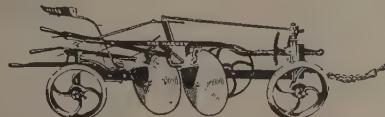
NO. 10 S.F. GENERAL PURPOSE PLOW.
High Steel, Goose-neck Beam, Fixed Handles.



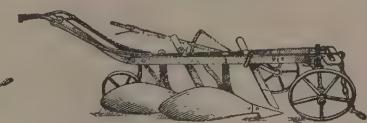
"HARVEY" GOOSE-NECK S.F. PLOW.
With shifting or fixed handles. Made in
7, 8, 9 and 10 sizes.



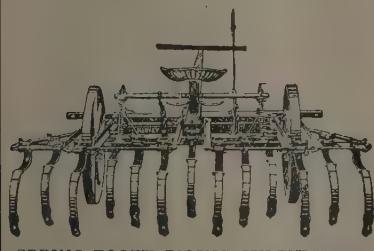
"HARVEY" SPRING TOOTH CITRUS
ORCHARD CULTIVATOR.



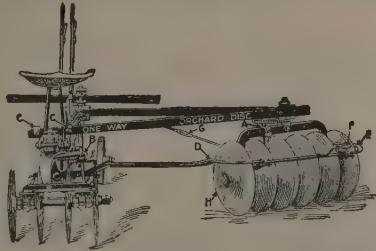
LIGHT 2-FURROW ORCHARD DISC PLOW.



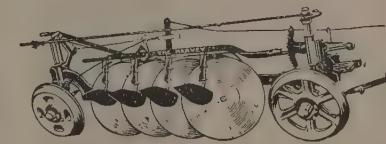
"HARVEY" 2-FURROW SHIFTING
ORCHARD PLOW.



SPRING TOOTH RIDING CULTIVATOR.



"HARVEY" ONE-WAY ORCHARD DISC
CULTIVATOR.



4-FURROW POWER LIFT TRACTOR PLOW.

Office and Works:

Write for Illustrated Catalogue

D. HARVEY, Box Hill, Melbourne, Victoria

Show Room: F. R. Mellor, 440 Elizabeth St., Melbourne



BEAUTIFYING THE ORCHARD HOMESTEAD



AUTUMN is that happy planting season for evergreen shrubs and bulbs of various kinds. The ground is still warm, and shrubs, bulbs and various winter and spring flowering plants, if planted now, will get an excellent start before winter's cold sets in.

Where the stems of the Gladioli have faded through the plants having finished their season of bloom, the bulbs or corms may be lifted and stored in a cool dry place ready for planting later. The Gladiolus is increasing in popularity, because of its easy cultivation, long season of bloom and its beauty and utility. Gladiolus bulbs planted during May should flower in the Spring. By planting in succession blooms may be obtained throughout spring, summer and autumn—that is for nine months of the year. For planting for summer blooms, however, growers should remember to choose a spot

which is sheltered from the heat of the sun, as otherwise the blooms have a tendency to become wilted.

Now is an excellent time for planting ornamental shelter and hedge plants and trees, and there is a wonderfully wide range offering. A handsome conifer, Araucaria excelsa (the Norfolk Island pine) which grows to a height of 80 to 100 feet, improves any homestead.

Readers desiring lists of shrubs, plants and trees suited to different localities are invited to write to the Horticultural Editor of the "Fruit World."

CULTIVATION OF HERBS.

All herbs do exceptionally well under average Australian conditions, and every farm garden should have a few plants of the more important sorts. Most garden soils will be

found suitable for the purpose. Those plants that are propagated from seed should be raised in the spring, but where only one or two plants are required it would be an advantage to buy rooted plants, and in many districts these can be put in at almost any time.

For marketing, the tops are either bunched or sold green, or they may be dried and the leaves separated, in which condition they are in most demand. Large quantities are annually imported in this dried state, but as there is a protective duty on imports there is considerable scope for local growers.

Mint.—This perennial plant requires a situation where there is a constant supply of moisture, such as a creek bed, &c., where it will spread very rapidly. The method of propagation is by rooted plants; these quickly send out underground roots,

.. THE .. Farmers and Settlers' Co-operative Insurance Company of Australia Ltd.

Capital, £100,000.	Subscribed Capital, £70,000.	Paid Up, £35,000.
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THIS IS THE ORCHARDISTS' CO.

for insuring his buildings, fruit in store, Workers' Compensation, and other risks. An orchardist who becomes a shareholder and places his insurances with this Company participates in the profits which his own business creates. Thousands of farmers and orchardists are already shareholders. Write for particulars.

Victorian Branch :

Directors—Mr. SYDNEY SAMPSON, M.H.R., Mr. DUNCAN McLENNAN, Mr. P. H. H. IBBOTT.

Manager—H. L. CARROLL

Address: 360 Collins Street, Melbourne

YOU are invited to become a shareholder.

AGENT—LAWFORD'S FRUIT EXCHANGE PTY. LTD., 60 Queen Street, Melbourne, and Williamson's Road, Doncaster.

AGENTS WANTED.

ESTABLISHED 1866. TELEPHONE 2979

WATTERS' Seeds

For the CHOICEST VEGETABLES and most BEAUTIFUL FLOWERS sow our Seeds

We are Headquarters for—

Hunter River Lucerne

Cleaned by our Special Machinery, and free from all weeds. SPECIAL QUOTATIONS for Cwt. or Ton lots on application.

We have large stocks of the following in best re-cleaned Seed: Broadleaf Dwarf Essex Rape, Grasses, Clovers, and all varieties of Green Fodder and Root Crop Seeds

Write at once for our Special Quotations.

Spraying Oils, Fungicides, Raffia

Illustrated Catalogue and Calendar, post free.

WATTERS & SONS
251 & 253 Swanston St., Melbourne

which can be divided and used for extending the bed.

Marjoram.—This plant is easily grown from seed, and lasts for many years.

Parsley.—The seed of this herb is very slow in germinating, and better results are obtained by sowing in a seed-box containing good quality soil, and trans-planting when the plants are very young, as they form a very long tap-root. Fresh plants should be raised every year.

Sage.—This herb is more in demand than any other in its dry state. The plant is easily grown from seed, or it may be propagated by root division, and when established will last for years. Besides the ordinary variety, there is a giant form known as Mammoth, which has proved of merit.

Thyme.—This herb is easy of cultivation, and may be propagated from seed or by division of plants. The two varieties chiefly grown are Broad Leaved and Lemon Scented.

The gathering of herbs for drying should be done in the height of summer, just as they are about to bloom, as at that time the plants are at their best as regards their essential oils. Drying should be carried out immediately after gathering, under partial shade or in an oven—factors necessary to preserve colour and flavour. After rubbing the leaves off store in air-tight receptacles.

Choice Gladiolus Bulbs.—Large flowering show varieties are offered by Messrs. Whiting Bros., Farm 19, Griffith, N.S.W. Six different varieties are offered for 8/6, post free. Readers may be assured of satisfaction by sending their orders direct to the firm named.

A HEAVY PEACH CROP.

(To the Editor, "Fruit World.")
Sir,—Re Mr. J. P. O'Callaghan's record yield of Pullar's Cling Peaches, a statement of which appears in your esteemed issue of April 1, I beg to state that an average of 25 tons per acre of sound marketable (not factory) Elberta Peaches have been harvested from the Merbein properties of Messrs. William Bennet, "La Belle" and R. M. Voullaire "Ziest." I consider these yields superior in every way to that reported from Leeton, as we all know that Pullar's Cling trees, grown under similar conditions to Elbertas, invariably produce the larger crop. I believe some of the adjacent Currawa growers could even beat above records.—I am, sincerely yours,
A. BRUCE

Merbein, 5/4/24.

Outclassed.

Fond Uncle: "Do you like riding on my knee very much?"

Niece: "Oh, no. I have ridden a real donkey!"

SUBSCRIBERS' PAYMENTS RECEIVED.

The following are the subscriptions received from March 20th to April 20th, 1924. The month quoted in parenthesis indicates to what date the subscription is paid. These are exclusive of the subscribers who have paid to local agents or to our offices in the various States:—

L. L. Adams (Dec., '24), W. G. Ahrens (Dec., '24), B. F. J. Bailey (Mar., '25), J. P. Bainbridge (Dec., '24), Bisdee Bros. (Feb., '25), H. Blake (Jan., '25), G. J. Butt, Senr. (Dec., '24), Imperial Bureau of Entomology (Dec., '24), A. J. Campbell (Dec., '24), V. Cahill (Dec., '24), Co-operative Fruitgrowers of Otago Ltd. (Dec., '24), John Cooke & Co. Pty. Ltd. (Nov., '24), E. R. Cottier & Co. (Nov., '24), J. T. Cripps (Jan., '24), Darter Bros. & Co. (Dec., '24), A. E. Dix (July, '25), R. F. A. Downes (Sep., '24), G. Duffell (Feb., '25), C. Exton & Sons (Feb., '25), J. T. Finger (Dec., '24), N. W. Filsell (Dec., '24), Gerom Fountain (Feb., '25), George Bros. (Dec., '24), J. W. Goodenough (Sep., '24), D. D. Grant (Mar., '25), Lieut.-Col. E. I. D. Gordon (Feb., '25), W. Hartsman (Mar., '25), H. H. Hatfield (Dec., '24), A. S. Henderson (Dec., '24), F. Hodges (Feb., '25), A. J. Horton (Mar., '24), A. Jaboob (Dec., '24), W. J. Johnson

(Sep., '24), H. Kregor (Feb., '25), Geo. C. Lang (Jan., '25), T. F. Locke (Mar., '25), C. W. Mally (Sep., '24), Phil Muller (Dec., '24), A. Milne (Dec., '24), Mildura Co-operative Fruit Co. Ltd., Melb. (Feb., '25), Wilson Moses (Nov., '24), John Morris (Oct., '24), Jas. McCorkell (Dec., '23), McFarlane & Co. (Dec., '24), W. M. McIver (Jan., '25), H. E. Napier, N. Z. Fruitgrowers Fedn. (Dec., '24), A. J. Pearson (Feb., '25), Pearce Bros. (Dec., '24), John Petty (Feb., '25), S. J. Perry & Co. (Dec., '24), W. A. Philp (Feb., '25), S. H. Pogson (Jan., '25), Douglas H. Pope (Dec., '24), Thos. Price (Jan., '25), M. L. Plummer (Dec., '24), R. C. Quick (Dec., '24), Wm. Read (Dec., '24), V. Rieschick (Dec., '24), A. B. Robin (Dec., '24), W. J. Ross (Jan., '25), J. C. Rough (Dec., '24), R. Russell (Dec., '24), J. Sagar (July, '24), Louis Salmon (Sep., '24), D. M. Shoobridge (Jan., '25), J. M. Sinclair & Sons (Feb., '25), W. S. Smith (Mar., '24), F. G. Stone (May, '24), L. G. Swain, Flaxton L. P. A. (Mar., '25), Tasmania Hop & Fruitgrowers Assocn. (Dec., '24), Toomuc Valley Orchards (Dec., '24), A. J. Lilley (Dec., '24), Victoria Cross Mfg. Co. Ltd. (Dec., '24), Wm. C. Voss (Dec., '24), Victorian Central Citrus Assocn. (Jan., '25), J. R. Vail (Feb., '25), W. H. Waters (Oct., '24), West Australian Farmers Ltd. (Nov., '24), E. A. Williams (Jan., '25), Legh. Winser (Feb., '25), C. J. Wippell (July, '24).

FRUIT TREES

ALL THE LEADING VARIETIES:

APPLES, PEACHES, PEARS
PLUMS, PRUNES, etc.

WELL GROWN, VIGOROUS, STRONG AND HEALTHY

Correspondence Invited

T. RUSSELL
Alliance Nurseries, KINGLAKE,
Victoria

Australasian Fruit Shipments.

London Traders state that Each Consignment should have a Distinguishing Number.

With regard to the branding of cases of fruit with a distinguishing number, we now publish hereunder, per favor of the Under-Secretary for Agriculture in N.S.W. (Mr. Geo. Valder) a statement of the position as set out by the Secretary of the Australasian Merchants' Association in London, as follows:—

"Considerable trouble and difficulty have for some years past been experienced in the handling of shipments of fruit arriving at U.K. ports, more particularly at London.

During the past season, delays and wrong deliveries were so bad that the assistance of this Association was invoked, and the matter has been before my committee for some time. Representations were made to the Port of London Authority, stevedoring firms and various shipping companies, with a view to getting some improvement, and eventually a conference was called by the National Federation of Wholesale Fruit and Potato Trades' Association, which was attended by representatives of all the various interests concerned.

The enormous number of marks on the cases undoubtedly causes great confusion, as not only

has the brand of the grower or shipper to be looked for, but a multiplicity of sub-marks denoting the different varieties under almost every brand.

There is considerable difference in the value of varieties, and consignees and buyers almost invariably have had tendered to them many cases of commoner varieties for the better ones they were entitled to; last season there were instances of hundreds of cases being so tendered whilst there is much to indicate that these mis-deliveries are due to the operations of unscrupulous persons, also to the lack of method and supervision on the part of those who undertake the work of delivery, it is only fair to admit, that with such a multiplicity of marks it is extremely difficult to accurately check deliveries, consequently excuses more or less reasonable made by the Port of London Authority Stevedores, etc., are entitled to consideration; obviously, however, anything that may tend to obviate excuses and to facilitate

correct and speedy delivery

is of paramount importance; this year delivery from some of the steamers spread over more than three weeks, much to the detriment of the fruit. If at the same time expense may be saved the fruit industry of Australasia must benefit considerably.

All this has been exhaustively considered, and at the Conference previously referred to, it was unanimous

ously agreed that if each consignee were to have

a specific number

on the cases consigned to him, and the shipping agents at the ports of shipment could be armed with the necessary authority to ship fruit bearing such numbers, only to those in whose name the numbers are registered, not only may discharge and delivery be greatly accelerated, but there should not be any excuse or reason for misdelivery, beside which the cost of handling at the port of discharge will also be lessened.

It is therefore proposed that:—

1. All growers and shippers should be compelled to place a distinguishing number (or numbers) on each and every case:

2. Each consignee shall register a number (or numbers) with the National Federation of Wholesale Fruit and Potato Trades' Association, 34/35 Southampton-street, Strand, W.C.2.

3. The Secretary to the Federation shall notify the various Governments of the names and registered numbers.

4. The various Governments be asked to issue orders or regulations, making it imperative that cases bearing a particular number shall be shipped only to the consignee in whose name such number is registered.

It is considered that the grower or shipper will not be fettered or prejudiced in any way by this arrangement, as he will be at liberty to choose his own consignee without in-

FRENCH POTASH

The Essential Fertilizer!

SULPHATE and MURIATE

ARE BOTH AVAILABLE

POTASH is the most important Nutritive Element in the Orchard, ensuring Better Fruit.

It Pays on all Soils

Full Particulars and Prices from the Sole Agents:

DALGETY & COMPANY LIMITED

461 BOURKE STREET, MELBOURNE

And all States

terference, and has only to stencil that consignee's registered number on his cases to ensure delivery to the person or firm to which he wishes his fruit to go.

Without some legislative enactment of Government regulation, shipping agents would have to take instructions from the grower or shipper, and in the event of the latter wishing the same number to be divided between two or more consignees the case numbering could not be any improvement upon existing conditions and expense, delays and wrong deliveries would continue.

Consignees have expressed willingness to provide stencil plates containing their registered numbers in a form approved by the Conference, free of charge to the grower or shipper."

Cooksley & Co.

(W. P. COOKSLEY)

Reliable Fruit Agents
22 Years' Experience

TRY THEM!

Fruit Exchange, Brisbane

QUEENSLAND.

Shipping No. 29

Reference: Commercial Banking
Co. of Sydney Ltd.

THE PORT OF MANCHESTER.

The following extracts from the Annual Report of the Directors of the Manchester Ship Canal Company (for the year ended 31st December, 1923), furnish proof of a substantial increase of direct trade, and are of interest in view of the claims which are made from time to time that an extension of direct trade with certain British outports, would result in extended markets and a reduction in the cost of distribution of Australian and New Zealand produce.

Regarding traffic, the report states:

"There was an increase of £52,253 in the receipts from ship canal tolls, ship dues, and the miscellaneous receipts, and an increase in the weight of the sea borne traffic on which ship canal tolls were paid of 1,026,077 tons as compared with the previous year. The result would have been more favourable but for the unfortunate strike of dock workers which, in common with some of the other ports in the country, resulted in a total cessation of work at the Manchester Docks from July 5th to 21st."

When it is considered that Great Britain has been passing through a period of acute industrial depression during the last three or four years, states Captain W. J. Wade (Australian Representative of the Port of Manchester), it is somewhat remarkable that any British port has increased its traffic, in fact, the latest annual report of the Port of Lon-

don Authority (for the year ended 31st March, 1923), shows that the combined imports and exports of six of the principal British ports, viz., London, Liverpool, Hull, Manchester, Glasgow, and Southampton, decreased by 3.7 per cent. during the previous twelve months. The aggregate imports and exports of the Port of London actually decreased by 7 per cent. during the period under review, and only two ports recorded increased traffic—one of which was Manchester, viz., by 6.4 per cent.

The remarkable increase in the trade of the Port of Manchester was undoubtedly due to the stress of post-war economic pressure having impelled a greater number of overseas primary producers and British manufacturers to use this great inland port as a means of reducing the cost of transport between producer and consumer.

APPRECIATION FROM LONDON.

"The Fruit World" is highly esteemed in London. All interested in the fruit trade rely on the "Fruit World" for regular and accurate information re the Australian fruit industry. The fact that the "Fruit World" is Australian in character and not limited to one particular State enhances its value.

J. R. V.

Australian Commonwealth Line

FAST PASSENGER AND CARGO SERVICE TO LONDON

Via Adelaide, Fremantle, Colombo, Port Said and Plymouth, transhipping
at Colombo for Calcutta, Rangoon, Madras and Bombay : : : :

VESSELS SAIL AS UNDER:—

	Tons	Brisbane	Sydney	Melbourne	Adelaide	Fremantle
T.S.S. LARGS BAY	13,850	24th Apr.	29th Apr.	7th May	10th May	15th May
" HOBSONS BAY	13,850	17th May	24th May	28th "	31st "	5th June
" ESPERANCE BAY	13,850	14th June	21st June	25th June	28th June	3rd July
" MORETON BAY	13,850	12th July	19th July	23rd July	26th July	31st "
" JERVIS BAY	13,850	9th Aug.	16th Aug.	20th Aug.	23rd Aug.	28th Aug.

Taking Wool, General and Frozen Cargo at Lowest Rates.

FOR FULL PARTICULARS APPLY TO—

Australian Commonwealth Line, 447-451 Collins St., Melbourne

Offices: BRISBANE SYDNEY, MELBOURNE, ADELAIDE.

AGENTS AT ALL OTHER AUSTRALIAN PORTS

The Fruit Trade

Every Firm should be Officially Represented

if only by a line or two—Our Readers are Your Clients. It is an able and wise introduction, and when you go through the fruit districts our Readers will have already known you through us. It pays best to send Consignments Regularly—not Occasionally—to the best markets, by doing so you strike the rising and falling markets and make a fair average for the season.

A ten times wider and better distribution will ensure a ten times greater production, at more payable returns. It is large and valuable exports from settled industries that make a nation prosperous.—Ed. "F.W."

This Journal is the recognised representative of the FRUIT TRADE in the Southern Hemisphere.

REPRESENTATIVE FIRMS, FRUIT MERCHANTS, AGENTS, EXPORTERS.

Advertising in this Journal.

NEW SOUTH WALES.

Sydney.
Chilton, F., City Fruit Markets.
Hopkins & Lipscombe, Fruit Exchange.
Reedy & Lee, City Markets.
Rogers, F. H. G., Fruit Exchange.
Rule & Beavis, Fruit Exchange.
Wade, Noel, V., Royal Exchange (representing the North of England Fruit Brokers Ltd., Manchester, Eng.).

VICTORIA.

Melbourne.
Coastal Farmers' Co-op. Society, Western Market.
Davis, J., Western Market.
Lister, G., Western Market.
Mills & Co., J. B., 9 Queen Street (representing Nothard, Lowe & Wills Ltd., London).
Millis, A., & Sons, Western Markets.
McClure, Valentine & Co. Pty. Ltd., 49 William St.
Mumford, J. G., 449 Flinders Lane.
Pang & Co. Ltd., H. L., Little Bourke St.
Silbert, Sharp & Davies, Western Markets.
Stott & Son, T., Western Markets.
Tim Young & Co., Western Market.
Vear, F. W., 49 William Street.
Wade & Co., H. M., 439 Flinders Lane.
Woolf, G., Western Market.

QUEENSLAND.

Brisbane.
Barr, A. S., Fruit Exchange.
Collard & Mackay, Fruit Exchange.
Cooksley & Co., Fruit Exchange.
Finlayson & Son, Fruit Exchange.
Geeves, H. V., Fruit Exchange.
International Fruit and Produce Co., Fruit Exchange.
Robsons Ltd., Fruit Exchange.
W. J. Whitten & Co., Fruit Exchange.

WESTERN AUSTRALIA.

Perth.
Wills & Co. Ltd., G., Exporters.

SOUTH AUSTRALIA.

Adelaide.
Wills & Co. Ltd., G., Exporters.

TASMANIA.

Hobart.
Jones & Co. Ltd., H., Fruit Exporters.
Peacock & Co., W. B., Fruit Exporters, and at London.

NEW ZEALAND.

Auckland.
Radley & Co. Ltd., Fruit Auctioneers.
Turner & Growers Ltd., City Markets.

Dunedin.

Co-operative Fruitgrowers' of Otago Ltd.
Paterson, Thos., & Co., Vogel Street.

ENGLAND.

London.
Bradnum, Jas., Covent Garden.
Da Costa, Gerald, Covent Garden.

Jacobs, E., & Sons, Covent Garden.
Lewis, Edw. H., & Son, Ltd., Covent Garden.

Lewis, Edward H. Son Ltd., Covent Garden.
Margeson & Co. Ltd., Covent Garden.
Moore & Co. Ltd., F.W., 8 Arthur Street, London Bridge.

Monro, Geo., Ltd., Covent Garden.

Nothard, Lowe & Wills Ltd., Tooley Street.

Poupart, T. J., Covent Garden.

Ridley, Houlding & Co., Covent Garden.

Swann & Co., 3 Salter's Hall Court.

Hull.
Becherwaise, E.
White & Son Ltd.

Liverpool.
J. Adam, Son & Co.
Johnson, T. S., & Co.
Roger White & Co., 37 Victoria Street.
Liverpool Fruit Brokers Assocn. Ltd.

Manchester.
North of England Fruit Brokers Ltd.
Port of Manchester, Captain W. J. Wade.

COMPARATIVE WEIGHTS AND MEASURES.

English Fruit Weights.

Apples, sieve is equal to 1 bushel, generally 38 lbs.

Cherries and Currants, $\frac{1}{2}$ sieve equal to 24 lbs.

Gooseberries, Plums, $\frac{1}{2}$ sieve, equal to 28 lbs.

Pears, sieve, equal to 50 to 56 lbs.

Foreign Weights.

Apples, Canadian, barrel, equal to 140 lbs.

Apples, American and Nova Scotian, barrel, equal to 120 to 130 lbs.

Pears, Californian case, equal to 40 lbs.

British and Australian Market Reports.

Australian Fruit in England.

London (10/4/24).

The Esperance Bay's cargo of Apples arrived in good condition, but there is considerable bitter pit in both Western Australian and Victorian Cleopatras, also some black spot in Western Australian Jonathans. The market is fairly brisk. Western Australian Cleopatras are selling at from 13/6 to 16/ per case, and some at 20/; Jonathans at from 13/ to 15/; Dunns at from 16/ to 17/; Cox's at from 13/ to 16/. Victorian are worth about the same as Western Australia. Pears are variable. Packham's Triumph are realising from 5/3 to 5/6 per tray; Capiaumonts, 8/ per three-quarter case; Bartletts, wet and wasty, 2/9 per half-case. Grapes: Tokay are worth from 15/ to 20/; Red Prince, from 16/6 to 18/6; Black Malaga, 18/6; and some wasty, from 4/ to 7/6.

London, 8/4/24.—The Apples shipped by the Demosthenes are turning out satisfactorily, with the exception that there is some bitter pit among the 'Cleopatras' and Cox's. Some sales have been made at about prices quoted yesterday. A few single cases of Cox's have been sold privately at 35/-, but this is quite exceptional, and must not be regarded as a market quotation.

London (7/4/24).

The Esperance Bay's consignment of Victorian Pears is variable, 400 cases of Williams' Bon Chretien being condemned. Sound Pears are selling well. Boscs realised 24/- per case, Clairgeau 17/-, Napoleon 16/-. Vicars 15/6, Capiaumont 15/6, Josephine 14/-. Howells from 5/ to 6/ per tray. The Demosthenes's Victorian Apples carried well, but many were small and immature.

London (28/4/24).

New Zealand Apples ex the "S. S. Cornwall" appear to be in a somewhat wasty condition and over-ripe. Cox's Pippins are selling at 10/- to 14/- a case; Dunns, Jonathans, and Adam Permain, 12/- to 14/-; and Golden Pippins, 10/- to 12/-. Further sales of shipments of Apples by the steamer "Anchises" have been made at Liverpool. Tasmanian Ribstones have brought 6/9 to 8/3 a case; Alexandras, 5/- to 5/9; Alfristons, 5/6 to 9/3; Jonathans and Cleopatras, 9/9. West Australian Cleopatras sold at 9/- to 11/- a case; and Jonathans at 9/6 to 10/-. while Victorian Jonathans and Cleopatras were taken at 9/6 to 11/6.

London (23/4/24).

Victorian Apples ex the steamer "Mooltan" realised from 11/- to 15/- a case, but most were sold at about 13/-. Some Cox's Pippins brought 22/- to 25/- a case. Most of the South Australian Apples carried by the same vessel realised 12/6 to 15/- a case, Cox's bringing 12/6 to 20/-, and a few cases 30/-. Tasmanian Apples sold mostly at from 9/- to 12/-, Cleopatras realising 11/6 to 13/6; Cox's 12/6 to 16/-, a few 22/-; and blemished sorts, 7/6 to 8/- a case. Victorian Pears have carried excellently, and are selling at from 9/- a half-case to about 25/- a case, some Boscs bringing 30/-. Further sales of New Zealand Apples, ex the steamer "Corinthic," have been made at 14/- to 16/- a case. Apples landed at Liverpool, ex the "Anchises," have met with a very slow market, and few have been sold. Tasmanian's brought 6/- to 10/- a case, and Victorian 7/6 to 9/9.

London (15/3/24).

The following are the prices ruling at Covent Garden, as published in the "Fruit, Flower, and Vegetable Trades' Journal":—

Apples, English, 9/- to 18/-; Californian, 14/6 to 19/- per box; Nova Scotian, 18/- to 45/-. Bananas, Hoya,

18/- to 32/- per crate; Fyffe, 14/6 to 25/-; Grapes, English, 3/- to 6/- per lb.; Cape, 5/- to 25/- per box. Lemons, Messinas, 15/- to 20/- per case. Oranges, Valencias and Denia 300's, 20/- to 25/-; 714's, 28/- to 30/-; Peaches, South African, 8/- to 14/- per box. Pears, South African, 4/- to 12/- per box. Pines, 4/- to 8/- each.

DRIED FRUITS.

Demand in England.

The Trade Commissioner for South Australia in London, writing on March 4, says:—

Currants.—The settlement of the dock strike has resulted in much more business passing, and low-priced fruit has advanced 6d. per cwt. A large proportion of the stocks consists of Vostizza, but low-grade predominates. Common are on offer at 62/- and 63/-; good, 65/-; fine, 70/-, 74/-; Patras are offering at 51/6 to 53/- for smalls. Only a limited quantity of Australian supply remains and prices rule at 55/. New crop Australia is selling at 60/- to 62/- to arrive.

Sultanas.—The demand for Smyrna supply is slow, with fair colors, 60/- to 62/-; good, 65/- to 68/-; choice, 75/- to 90/. A good demand rules for Australian supply, with fairly heavy sales at 55/-.

Liverpool.—Messrs. J. C. Houghton and Co. quote their market: Currants—Calamata, 45/-, 46/-; Zante, 48/-, 52/-; Gulf and Panariti, 48/-, 56/-

Vostizza, 58/-, 72/-; Raisins—Valencias, 47/6; Australian lexiias, 45/-; Sultanas—Smyrna fine, 74/-, 90/-; Greek, 50/-, 60/-; Cretan, a few, 90/-; Afghan, red, 50/-; yellow, 60/-; and old fruit, 40/-.

New South Wales.

Sydney (25/4/24).

Mr. F. Chilton, City Fruit Markets, Sydney, reports as follows:—

Queensland Fruits.—Prices as per case unless otherwise stated:—Pines, smooth (colored), 16/- to 20/-; New South Wales Fruits.—Bananas, Tweed River, 16/- to 34/-; Oranges, 5/- to 12/-; Lemons, 5/- to 10/-; Apples, eating, 8/- to 11/-; Apples, green cookers, 7/- to 12/-; Passions, 8/- to 18/- per half case; Peaches, 2/- to 6/-; Pears, 6/- to 10/-; Quinces, 3/- to 6/-; Persimmons, 2/- to 5/- per half case; Grapes: Black Muscat, 5/- to 10/- do.; Sherry, 3/- to 5/- do.; Cornichon, 5/- to 7/- do. Prices for New South Wales fruit are quoted exclusive of case. Victorian Fruits.—Apples: Jon., 8/- to 11/-; R.D.C., 7/- to 9/-; F.C.P., 8/- to 10/-; Pears: B.D.C., 7/- to 8/-; Howell, 7/- to 9/-; Peaches, 6/- to 11/-; Tasmanian Fruits.—Apples: F.C., 10/- to 13/-; Alf., 7/- to 11/-; T.P., 8/- to 10/-; Jon., 8/- to 11/-; D.C., 7/- to 9/-; Pears: B.E., 3/6 to 5/- per half case; W.C., 4/- to 6/- do.; Nap., 4/6 to 6/-; South Australian Fruits.—Apples: Cleo, 10/- to 12/-; Jon., 8/- to 11/-; R.B., 8/- to 11/-. Heavy supplies of

eating Apples and Pears came forward in anticipation of an extra demand, with the result that prices have eased for these fruits.

Victoria.

Melbourne (29/4/24).

The following are the wholesale prices ruling at the Western Market:—Apples—Choice to good eating, 4/- to 6/6; choice to good cooking, 3/6 to 6/-; Bananas—Queensland, 29/- to 30/- double. Grapes—Muscatels, 4/- to 7/-; Waltham, 4/- to 8/-. Lemons—Victorian, 6/- to 8/-. Oranges—Queensland, 16/- to 17/-. Passion Fruit—Victorian, 16/- to 22/-. Pears—Keiffers, 2/6 to 4/-. Pineapples—Queensland, 18/- to 20/- double.

Western Australia.

Perth (24/4/24).

The following are the prices ruling: Apples, Jon., best 13/- to 16/-; others to 10/-; small grade lines to 7/-, 3 bushel; best 7/- to 9/6; others to 6/-; Granny Smiths, bushel, best 13/- to 15/6; others to 11/-; Cleos, best 12/- to 15/-; others to 8/-; Dunn's, to 8/6; Rome Beauties, to 10/9; Delicious, to 10/3. Pears, Bartletts, 3 bushel, 13/- to 16/9; Keiffers, bushel, best, 12/- to 16/-; large, to 9/-; Josephine, 3 bushel, to 10/6; W. Nelis, to 9/6; Vicars, bushel, to 5/6; Winter Bartletts, to 5/9. Strawberries, 14/- to 16/3. Oranges, Val-

(Continued on page 262)

Open Letter to Australian Fruit Growers and Shippers.

REILLY'S CENTRAL PRODUCE MART. LTD. Dunedin, N.Z.

Gentlemen :

During 1923 we had the pleasure of faithfully serving growers in N.S.W., QUEENSLAND, VICTORIA and ADELAIDE, selling on their behalf at auction and by private treaty, LEMONS, PEARS, MANDARINS, ORANGES, PASSIONS, BANANAS, LEMONS, GRAPEFRUIT, PERSIMMONS, LOQUATS, POORMANS, FIGS, SEVILLES, FRESH and CURED GRAPES, APRICOTS, PEACHES and APPLES with satisfaction to our consignors and customers.

The service given our patrons during the past twenty-one years has won the respect of consignors and customers in N.Z., ENGLAND, AUSTRALIA, CANADA, the ISLANDS and AMERICA, and we are justly proud of this fact.

If there are any growers, packers or exporters of choice dessert fruits, wishing to try our Dunedin markets, we respectfully offer you our service in this market.

With a desire to faithfully serve you,

We are, sincerely yours,
REILLY'S CENTRAL PRODUCE MART. LTD.

Cable address:—“REILLY, DUNEDIN”

N.Z. Agents for:—

The Johnston Fruit Co., Santa Barbara.
The Associated Growers of British Columbia.

W. D. Peacock & Co., London, Liverpool and Hull.

Melbourne Representative:—Mr. ESMOND RUSSELL, 60 Queen St., Melbourne.

From whom all Shipping Information can be obtained

N.Z. Agents for:—

Hannah-Cloke Air Free Case.

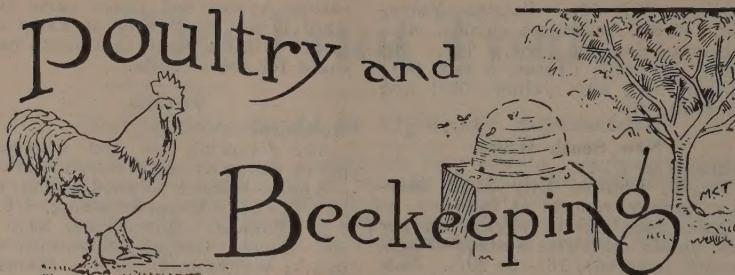
Ellis Fruit Grader.

Black Leaf “40”

“Vallo-Giraffe” Sprays.

Combined Buyers Ltd., etc., etc.

Poultry and Beekeeping



Poultry Notes

(By Ian P. Hamilton.)

Winter Reminders.

WITH THE COMING OF WINTER there are many things that the poultry-keeper must look to if he wishes his birds to show a fair margin of profit throughout the cold months of the year.

* * * * *
Warm sheds are essential. Birds allowed to run out in wet muddy yards will not lay as well as those housed in warm, dry sheds.

* * * * *
See that there are no leaky roofs or draughty walls, and provide plenty of scratching litter, so that the birds may get exercise.

* * * * *
A good wet mash is made up of equal parts by measure of bran, pollard, and green stuff. The bran may be moistened with soup made from boiled table meats or livers, or else add animal food in the form of meat meal. The mixture should then be dried off with the pollard to a nice crumbly consistency. Then add the green stuff.

* * * * *
During May and June ground wheat and barley in equal quantities can be used in place of bran with advantage. The best greens are lucerne, barley, or rye grass, cut fine or put through a chaffcutter.

Minced raw onions, fed once a week at the rate of $1\frac{1}{2}$ lbs. per 100 birds, and a little Epsom salts (one teaspoonful for every 20 birds) and sulphur occasionally, helps to keep the birds fit.

* * * * *
The evening meal should consist of wheat of good quality. Algerian oats (not clipped) may be fed for a change in the winter, and barley is also a useful change diet. The ration can be varied with some mixed grain occasionally, as fowls relish a change of food.

* * * * *
The grain should be scattered in a scratching litter about 4 to 6 inches deep.

* * * * *
Remember that fowls under natural conditions live on grit, green-stuff, grain and grubs. Therefore, see that the four G's are supplied as nearly as possible in the diet fed to birds kept in confinement.

* * * * *
In housing your laying birds for the winter, remember that for light breeds 4 square feet of floor space should be allowed for each bird, and in the case of heavy breeds it is advisable to allow at least 5 square feet.

* * * * *
About 110 lbs. of food is consumed by one hen in a year, or a little less than 4 ozs. a day. It is estimated that in the case of good layers each hen should show a profit of £1 a year.

* * * * *
Get busy and pick out your breeders. Early-hatched chicks pay

best. Select carefully the male for the breeding pen. Remember he is father to every chicken from the pen while the hen is only mother to chicks from the eggs she lays. Therefore the importance of the male in determining the quality of the progeny is greater than that of the hen.

* * * * *
It is a good plan to fill up all floors 3 to 6 inches above the outside level so as to prevent dampness in the winter.

* * * * *
Keep pens and nests clean. Clean nests mean clean eggs. Use lime freely.

* * * * *
Now is the time to look to your incubators and brooders. See that they are all clean and in good repair. You will be using them soon.

* * * * *
Your pullets need all the care and attention you can give them just now. They should be in full lay. If they are not, look for the reason, and remedy it. You can't afford to be losing money—and eggs are worth a bit just now.

Bee Keeping

Storing Honey.

IF HONEY IS STORED in a damp place, and not thoroughly sealed up, it will absorb moisture, and if excessive moisture is taken up the honey is liable to ferment and deteriorate in value.

Do not leave the lid off the containers, or leave honey exposed for any length of time during the late autumn and winter months.

2 DAY OLD CHICKS 2

Blk. Orp., White Leghorn £6/6/0 per 100
£3/10/0 per 50
18/- per doz.

Good Laying Strain. Order at Once.
Delivered anywhere by rail.

R. STEPHENS,

Goodwin Poultry Farm,
We Pay Freight. Blackburn, Vic.

STONE FRUITS CITRUS TREES and QUALITY ROSES

BEFORE PURCHASING

for hardiness, healthiness, and vigor. Our stocks are excellent and prices right.

A Good Start means Everything!

send for Lasscock's Catalogue and prices. These South Australian grown trees are unsurpassed for hardiness, healthiness, and vigor. They will jump from the start and bring profit to the grower. Special attention is given to packing.

LASSCOCK'S NURSERIES

Henley Beach Road,
LOCKLEYS, STH. AUSTRALIA

It's the Winter Layers that Lay the Money !



Reader: there are at least five hundred thousand poultry keepers in the world today whose birds will keep up a higher winter egg production than yours.

They are the users of Karswood Poultry Spice, situated all over the world. Half-a-million of them!

It's the winter layers that lay the money! Real money! and if there exists an economical method by which you can induce your birds, by perfectly natural means, to lay more eggs this winter, isn't it well worth investigating?

Such a method does exist! The Karswood method. But we don't ask you to take it for granted that this is true. We ask you to prove it for yourself.

It will cost you 1/- only.

Go to your local Grocer, Store-keeper or Produce Dealer. Get a 1/- packet of Karswood Poultry Spice (containing ground insects). Give it to a selected twenty birds either in the morning or afternoon mash at the rate of a tablespoonful to every twenty every day. Do not expect an immediate deluge of eggs. Karswood does not "force"—it achieves its object by a natural development of the egg cluster.

Within a fortnight or three weeks you will notice a decided improvement in the health, virility and plumage of these twenty birds, and their egg returns will show a pleasant increase.

Continued use of Karswood will make you an ardent supporter of this Karswood system, as are these users whose letters we have reproduced below.

"ALL IT CLAIMS TO BE."

150 Camberwell Road,
Auburn, Victoria,
7th June, 1922.

Dear Sirs,—

I have been using "Karswood" Poultry Spice for some time now, with excellent results. It is with-

out doubt one of the best poultry spices on the market. I have also used the "Karswood" Chicken Powder with very effective results as regards chicken ailments, etc., and I must say that the results from the Spice and Powder are all that it claims to be.

(Signed) C. McDONNELL.

NOTE THE ECONOMY

1/- packet supplies 20 hens 16 days
2/- packet supplies 20 hens 32 days
13/- tin (7lb.) supplies 140 hens
32 days
14lb. tins, 25/-; 28lb. tins, 48/-.

Makes 12 hens lay for 1/2d. a day

"KEEP EGG BOXES FULL."

Model Poultry Yards,
Merewether, via Newcastle,
N.S.W., August, 1922.

Dear Sirs,—

This is to certify that I have used your "Karswood" Poultry Spice, and for getting birds into show condition and health, I find nothing better; also to increase the egg yield.

I am an Exhibitor in all the leading shows in N.S.W., and can recommend "Karswood" Spice to all who wish to be amongst the winning cards, also to keep their flocks in the best of health and condition, and to keep the egg boxes full.

You may use this as a guarantee of my faith in "Karswood" Spice, as I am one of the leading Fanciers in N.S.W., and am known all over the world. So if this is of any use to you as a testimonial I shall be pleased to see it amongst your advertisements.

(Signed) C. A. CLARKE.

"ASSISTS THROUGH MOULT."
Rockford Road, Tahmoor, N.S.W.,
19th January, 1923.

Dear Sirs,—

I hope I shall now be able to forward more consignments, as I find "Karswood" Poultry Spice assists the fowls through their moult, and brings them on laying much quicker.

I am sorry I was short of this Spice last month, but hope to keep it up to them in future.

(Signed) C. E. CARTER.

AVERAGE 4½ EGGS A DAY FROM 6 HENS IN WINTER.

"Warreen," 15 Gordon Street,
Brighton Beach, Vic.,
27th August, 1923.

Dear Sirs,—

Advertising to your letter of the 21st instant relating to "Karswood," kindly note that I have no objection to you using the facts I have placed before you, for advertising your Spice.

I mentioned that my first hen commenced laying on the 20th May, 1923, and the sixth in July (this bird made too much flesh), so I therefore claim 7 days to average up the time between the first and sixth, when some had not commenced laying.

Therefore, counting the three months up to to-day (27th Aug.), my total of eggs produced stands at 352 (three hundred and fifty-two). Rough av. 3, 4/5 per day for 92 days.

The number of eggs received this month stands at 122 for 27 days—average 4½ per day.

I am agreeable that you substitute these figures for those in my previous letter, should you deem it advisable. You will be notified from time to time of figures, etc.—Yours faithfully,

(Signed) C. R. NEVILLE.

In these and dozens of similar letters lies the proof of what we claim. Make the test, and prove the profit to your own satisfaction.

You have nothing to lose for "Karswood" cannot force or injure. It contains no harmful ingredient of any sort. No Ginger, No Gentian, No Chillies, No Cayenne, No Capsicum, nor anything else that can harm. We guarantee it to be harmless.

If your local dealer cannot supply you. Write to the agents for your State, who will send you a trial packet at the following rates (post paid)—1lb. pkts., 1/6; 1lb. pkts., 2/9.

Agents for Victoria and Tasmania:

HENRY BERRY & CO.
PTY. LTD.
COLLINS STREET, MELB.

Karswood Poultry Spice
GUARANTEED HARMLESS
Makes Twelve Hens Lay for a Halfpenny a day.

If kept in a dry place and in a sound container, honey will keep good for years. It may granulate, but this is not a sign of deterioration. There appears to be no practicable method that can be classed as an absolute preventive of granulation.

Some honey has a tendency to granulate quicker than other honey. Some will granulate with a coarse grain, while others will have grain as fine as icing sugar.

Clover and lucerne honey has a very fine grain when granulated, while that from some of our eucalyptus gums has a coarse grain.

Granulated honey can be liquified by immersing the tin in water heated to 150 degrees Fah., and if the operation is carefully carried out the quality is not deteriorated materially in this first heating.

Swarming.

When there is not sufficient honey coming into the hives, the bees get the swarming impulse, and ordinary work ceases.

A colony consists of four classes of bees. Each class has its own operations to perform and if these duties are interfered with the work will be hindered to the extent of causing discontent and swarming. The best strains of Italian bees have little or no inclination to swarm under any circumstances.

Soon after the young bees emerge from the cells their internal organs begin the natural functions of accumulating larval food.

If, through the fault of the queen, or any other cause, the amount of brood to be fed is less than the nurse bees require to satisfy their instincts and natural body functions, they become discontented, and swarming takes place.

At the age of about six days the natural organs of the young bees change their functions, and they become producers of wax.

The natural work of these bees is to build comb and seal over the brood and honey cells. An unbalanced condition of the colony is often brought about by the failure of the queen to keep up the brood-rearing at the normal rate.

When brood-rearing is reduced suddenly, the numbers of nurse-bees are in excess of the amount of brood to be fed, and there is general discontent in the hive.

IS THIS YOURS?

In December last we received a letter from one of our subscribers enclosing postal notes for 8/6, but the name of the sender was omitted. The postal notes were obtained from the Tweedvale Post-office, South Australia, the envelope bearing the same post-mark. We would be glad to hear further from the sender of the remittance.

(Continued from page 259)

encies, $\frac{3}{4}$ bushel, best, 15/- to 19/3; others, to 11/-; Navels, to 16/9. Lemons, best, 6/- to 10/3; others, to 5/-. Persimmons, 4/- to 8/6.

Queensland.

Brisbane (26/4/24).

Apples, Jon., 14/- to 15/- per bushel case; Alexanders, 12/- to 13/-; Duke of Clarence, 11/- to 12/-; Lady in the Snow, 4/- to 7/-; R.P.M., 11/6 to 12/-; C.O.P., 11/6 to 12/-; B.O., 7/- to 11/-; A.P.M., 11/- to 12/-; French Crabs, 14/- to 15/-; Rennetts, 11/- to 13/-; H.C., 11/- to 13/-; Pears, Duchess, 7/- to 8/- a bushel case; Winter Cole's, 9/- to 11/-; Winter Nelis, 9/- to 11/-; G.S., 8/- to 10/-; B.C., 6/- to 8/-; R.D.C., 5/- to 6/-; Keiffer's (choice), 7/- to 8/6; others, 4/- to 6/-; Bananas, primed, 6d. to 8½d. doz.; Passion-fruit, 4/- to 7/-; $\frac{1}{2}$ bushel, Oranges, 7/- to 12/- per case; Lemons (South Aust.), 13/- to 15/-; Pines, rough, 10/- a doz.; others, 7/- to 9/-.

South Australia.

Adelaide (24/4/24).

Apples, eating, 5/- per case; cooking, 3/- to 4/-; Bananas, 28/- to 32/-; Figs, 10/-; Grapes, 7/-; Lemons, 6/-; Melons (pie), 4/- per cwt.; do. (water), 4/- per cwt.; nuts (Almonds), 9/- to 10/- doz. lbs.; Conoanuts, 5/- per doz.; Peanuts, 11/- per doz. lbs.; Walnuts, 12/-; Oranges, 12/- to 14/- per case; Passion-fruit,

30/-; Pears, eating, 6/- to 8/-; cooking, 3/- to 4/-; Pineapples, 22/6; Pomegranates, 5/- to 6/-; Quinces, 3/-. Fruit prices are without cost of case.

New Zealand.

Dunedin.

Messrs Reilly's Central Produce Mart, Ltd. report as follows:—Grapes, Locals, 1/2, 2/2; Oamarus, 9d., 1/7d; Gros Colmars, 1/9, 2/6. Pears, Choice Conference, 2d., 3d.; B. Bosc, 2½d.; Marie Louise, 2½d., 3d.; Winter Cole, 2d., 3d.; Winter Nelis, 2½d., 3d.; Cooking, 1½d., 2d. per lb. Apples, Choice Cookers, 4/- to 6/-; Jonathans, 8/- to 11/6; Delicious, 10/- to 14/6; Cox's, 10/6 to 13/9; others, 5/- to 7/6. American Lemons, 40/-. Californian Oranges, 37/6. Bananas, Ripe, 35/-; Green, 25/-. Walnuts, 6d., 10½d. Almonds, 10½d.

Inquiry for Crushed Pineapples.

The American Trade Commissioner in Australia has recently an enquiry from a firm in Seattle, Washington, U.S.A., for quotations for crushed Pineapples packed in 10 lb. tins, packed 6 tins per case, and 10 tins, which hold about 6 lbs. per tin. The quotation is to be based on a supply of 2,000, 5,000 and 10,000 cases. Additional information is obtainable from the American Trade Commissioner, Chancery House, Little Collins-street, Melbourne, Victoria.

“Higher than a Kite”

The Ellis Fruit Grader

Here's a copy of a letter just to hand:—

Shepparton E.

“I may tell you I would not be without it now, it knocks hand grading higher than a kite.”

(Signed) A. D. CRAIG,

18/2/24.

Shepparton.

Does not this speak volumes?

Instal one now—You can't do without it, either.

We are distributors of the British Wonder Car “The Arrol Johnston.”

Write for particulars.

Ellis Grader & Motor Co. 226 FLINDERS LANE, MELBOURNE.

Agents:

Colonial and Interstate Agents:—Queensland—Sthrn. Q'land Fruitgrowers' Assn., Roma St., Brisbane. N.S.W.—H. H. Hinds Ltd., 484 Kent St., Sydney. Sth. Aus.—Premier Machinery Co., Morphett St., Adelaide. New Zealand—A. Simmonds Ltd., Heretaunga St., Hastings. South Africa—Oswald Bros., Cape Town.